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THE HALLUCINOGENIC MUSHROOMS OF MEXICO AND PSILOCYBIN: A BIBLIOGRAPHY

R. Gordon Wasson*

THE past six years have seen unprecedented activity in the study of the hallucinogenic mushrooms of Mexico. So diverse and extensive has this activity been, and so numerous are the publications about these mushrooms and their derivatives, that we believe a bibliography on the subject is timely. It will prove useful, we hope, in mobilizing our knowledge about them and in facilitating further research.

This interest—scientific, cultural, popular—flows directly from the writings of Roger Heim and the Wassons. On February 13, 1956, Professor Heim submitted his first *Note* about these mushrooms to the Académie des Sciences, Paris, based on the discoveries that my wife, Dr. Valentina P. Wasson, and I had made in the Sierra Mazateca, Oaxaca, in the summer of 1953. This initial *Note*, published in the *Compte rendu* of February 20, has been followed at intervals by others.

In the spring of 1957 my wife and I brought out our book, *Mushrooms Russia and History*, the fruit of almost thirty years of intermittent research. Timed to coincide with its appearance, we published articles of *haute vulgarisation* on our Mexican mushrooms in *Life* (illustrated with reproductions of water-colors of the mushrooms by Professor Heim) and in *This Week*.

Meanwhile Professor Heim was enlisting teams of scientists to work on the mushrooms. He himself has naturally coped with the mycological problems, ably assisted by his technician, Roger Cailleux. The scientists of the Swiss pharmaceutical house of Sandoz A. G. were quick to help. Drs. Arthur Brack and Hans Kobel succeeded in developing mass production of the fungal material in

*Research Fellow, Botanical Museum of Harvard University.

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the laboratory. Dr. Albert Hofmann (discoverer of LSD-25, a substance kindred to the active principles found in the hallucinogenic mushrooms) isolated the two active agents, *psilocybin* and *psilocin*, and with his colleagues defined their molecular structure and succeeded in synthesizing them. Dr. A. Cerletti with his colleagues studied their pharmacological and physiological properties. Professor Jean Delay, the eminent French psychiatrist, was the first to head up a team to experiment clinically with psilocybin and psilocin at the Hôpital Ste. Anne in Paris.

All of this activity culminated in the appearance of a book, *Les Champignons Hallucinogènes du Mexique*, large in format and richly illustrated, in the writing and editing of which Professor Heim was the prime mover. I contributed the historical and anthropological chapters, and Professor Heim did me the honor of joining my name to his as co-author on the title page; the Sandoz and Delay teams also made their several contributions. My wife and collaborator died at the end of 1958, and, when the book appeared a few weeks later, it was dedicated to her memory.

It is appropriate, even inevitable, that, because of their number and broad scope and the quality of Professor Heim's contributions, his publications and ours be listed together in the first section of our bibliography. The second section, divided into three parts, deals with THE PAST: *a*) *Primary Sources*, *b*) *Later References*, and *c*) *Archeological*. Under *a*) *Primary Sources* we give the citations for all references to the sacred mushrooms known to us in the early Mexican writings. As time goes on, more will certainly be uncovered. A promising area to explore lies in the body of surviving Nahuatl literature, largely in manuscript and mostly unread; Nahuatl is the language spoken by the Aztecs and many other peoples of Middle America at the time of the Conquest. Our *b*) *Later References* includes such citations as we have found in writers who are posterior to the *Primary Sources* (the last of these being Bishop Lanciego in 1726) and down to and including William E. Safford in 1915. During these two centuries the record shows no first-hand contact by white men with the sacred mushrooms, no field trips, no curiosity about them. The sacred mushrooms of Mexico had never arrested the attention of the great outside world. Now they were known only to a few scholars poring over dusty tomes and records, who occasionally would mention them perfunctorily in their own obscure publications. Then finally Safford appeared on the scene and delivered, as he thought, the *coup de grâce* by declaring in an elaborate paper read before a distinguished society in Washington (later published with photographs and footnotes in a learned journal) that the vision-producing mushrooms had never existed. They had been, it would seem, an hallucination of the Spanish *padres*. The entries under *c*) *Archeological* are contributed by Dr. Stephan F. de Borhegyi, Director of the Milwaukee Public Museum, who for more than ten years has studied the "mushroom stones" of Middle America, those artifacts long considered enigmatic that we interpret as

the symbol of the religious cult of our sacred mushrooms. Following each entry in this sub-section Dr. de Borhegyi has added his illuminating comment.

The third section in our Bibliography is ANTHROPOLOGICAL, reflecting the revivified interest in the ways of the Indians leading their own lives today in the mountains of Oaxaca, Puebla, Vera Cruz, and the vicinity of Mexico City. The fourth section is MYCOLOGICAL. The fifth CHEMICAL, the sixth PHARMACOLOGICAL, and the seventh PSYCHOLOGICAL, PSYCHIATRIC, AND CLINICAL. The entries in these sections five, six, and seven often overlap, and therefore we have made them into a single list, but we have indicated in brackets to which sections each entry belongs.

The eighth section covers PARAPSYCHOLOGICAL items; the ninth, CASES OF ACCIDENTAL INGESTION OF HALLUCINOGENIC MUSHROOMS; and finally BOOK REVIEWS are listed in the tenth section.

Much has been published on our mushrooms and psilocybin in the lay press, in many countries. Our bibliography does not attempt to cover these articles: perhaps they will be the subject of a brief paper on a future occasion. We have tried to make our entries complete to July 1, 1962.

The basic papers of Professor Heim that originally appeared in the *Comptes rendus* of the Académie des Sciences, Paris, were reprinted, except the most recent ones, in the *Revue de Mycologie*, complemented by specific definitions in Latin and certain other articles; and finally these pieces were gathered together in three recapitulations:

(1) *Notes préliminaires sur les Agarics hallucinogènes du Mexique*, 1957, hereafter called *Notes prélim . . .* ;
(2) *Nouvelles Observations sur les Agarics hallucinogènes du Mexique*, 1958, hereafter called *Nouv Observ . . .* ; and
(3) *Deuxième Supplément aux Observations sur les Agarics hallucinogènes du Mexique*, 1962, hereafter called *Deux Supplé*

These were published by the Laboratoire de Cryptogamie, of the Muséum National d'Histoire Naturelle, 12, Rue de Buffon, Paris, V^{e}. The successive publication of these basic documents will be made clear by the key on the next page:

Comptes rendus Académie des Sciences			*Revue de Mycologie*			
Feb. 20, 1956	tome	242:965–8	May 15, 1957	XXII(1)	58–62	
Mar. 12, 1956		242:1389–95	,,	,,	62–70	
Feb. 4, 1957		244:695–700	,,	,,	70–76	
June 24, 1957 (*Note* of Roger Heim and Roger Cailleux)		244:3109–14	Sept. 15, 1957	XXII(2)	183–9	*Notes prélim . . .*
Aug. 5, 1957		245:597–603	,,	,,	189–197	
Nov. 18, 1957 (Presented at session of Nov. 13)		245:1761–5	Dec. 31, 1957	XXII(3)	300–5	
Mar. 3, 1958 (*Note* of Roger Heim, Arthur Brack, Hans Kobel, Albert Hofmann and Roger Cailleux)		246:1346–51	Apr. 15, 1958	XXIII(1)	106–13	*Nouv Observ . . .*
Aug. 4, 1958 (*Note* of Roger Heim and Albert Hofmann)		247:557–61	Oct. 15, 1958	XXIII(3)	347–51	
Oct. 20, 1958 (Presented by R. Heim on behalf of Jean Delay, Pierre Pichot, Thérèse Lemperière, and Pierre Nicolas-Charles)		247:1235–8				
Nov. 9, 1959 (*Note* of Roger Heim and Roger Cailleux)		249:1842–5	Dec. 31, 1959	XXIV(5)	437–441	*Deux Supplé . . .*
Dec. 15, 1960 (*Note* of Guy Stresser-Péan and Roger Heim)		250:1155–60				
Jan. 29, 1962 (*Note* of Roger Heim and Robert Gordon Wasson)		254:788–91				

THE HALLUCINOGENIC MUSHROOMS OF MEXICO AND PSILOCYBIN: A BIBLIOGRAPHY

Compiled by R. Gordon Wasson and Sylvia Pau

		Page
I.	ROGER HEIM AND THE WASSONS, V. P. AND R.G.	30
II.	THE PAST	35
	a. Primary Sources	35
	b. Later References	39
	c. Archeological	40
III.	ANTHROPOLOGICAL	50
IV.	MYCOLOGICAL	55
V.	CHEMICAL	57
VI.	PHARMACOLOGICAL	
VII.	PSYCHOLOGICAL PSYCHIATRIC CLINICAL	
VIII.	PARAPSYCHOLOGICAL	69
IX.	CASES OF ACCIDENTAL INGESTION OF HALLUCINOGENIC MUSHROOMS	70
X.	BOOK REVIEWS	70

Books

1. WASSON, VALENTINA PAVLOVNA, AND R. GORDON WASSON. Mushrooms Russia and History. New York: Pantheon Books, 1957. 2 vols, 435 pp. 85 plates. 28 illustrations in text. Out of print.

2. HEIM, ROGER, AND R. GORDON WASSON. Les Champignons Hallucinogènes du Mexique: Etudes Ethnologiques, Taxinomiques, Biologiques, Physiologiques et Chimiques. With the collaboration of Albert Hofmann, Roger Cailleux, A. Cerletti, Arthur Brack, Hans Kobel, Jean Delay, Pierre Pichot, Th. Lemperière, and J. Nicolas-Charles. (*Archives du Muséum National d'Histoire Naturelle*, 1958. Series 7, Vol VI.) Paris: Muséum National d'Histoire Naturelle, 1959. 322 pp. 36 plates. $64.00

3. HEIM, ROGER. Champignons toxiques et hallucinogènes. Paris: Boubée & Cie. Nov 1962.

Comptes rendus
Académie des Sciences, Paris

4. HEIM, ROGER. "Les champignons divinatoires utilisés dans les rites des Indiens Mazatèques, recueillis au cours de leur premier voyage au Mexique, en 1953, par Mme Valentina Pavlovna Wasson et M R. Gordon Wasson." Vol 242, Feb 20 1956, pp 965–968. (Reprinted in *Rev mycol*, Vol XXII, Fasc 1, May 15 1957, pp. 58–62; also in *Notes prélim* . . . , pp 1–5.)

 This *Note* was submitted to the Académie des Sciences on Feb. 13, 1956. R.G.W.

5. ———. "Les champignons divinatoires recueillis par Mme Valentina Pavlovna Wasson et M R. Gordon Wasson au cours de leurs missions de 1954 et 1955 dans les pays mije, mazatèque, zapotèque et nahua du Mexique méridional et central." Vol 242, March 12 1956, pp 1389–1395. (Reprinted in *Rev mycol*, Vol XXII, Fasc 1, May 15 1957, pp 62–70; also in *Notes prélim* . . . , pp 5–13.)

6. ———. "Les Agarics hallucinogènes du genre *Psilocybe* recueillis au cours de notre récente mission dans le Mexique méridional et central en compagnie de M R. Gordon Wasson." Vol 244, Feb 4 1957, pp 695–700. (Reprinted in *Rev mycol*, Vol XXII, Fasc 1, May 15 1957, pp 70–76; also in *Notes prélim* . . . , pp 13–19.)

7. ———, AND ROGER CAILLEUX. "Culture pure et obtention semi-industrielle des Agarics hallucinogènes du Mexique." Vol 244, June 24 1957, pp 3109–3114. (Reprinted in *Rev mycol*, Vol XXII, Fasc 2, Sept 15 1957, pp 183–189; also in *Notes prélim* . . . , pp 22–28.)

8. Heim, Roger. "Analyse de quelques expériences personelles produites par l'ingestion des Agarics hallucinogènes du Mexique." Vol 245, Aug 5 1957, pp 597–603. (Reprinted in *Rev mycol*, Vol XXII, Fasc 2, Sept 15 1957, pp 189–197; also in *Notes prélim* . . . , pp 28–36.)

9. ———. "Sur les *Psilocybes* hallucinatoires des Aztèques et sur le microendémisme des Agarics utilisées par les Indiens du Mexique à des fins divinatoires". Vol 245, Nov 18 1957, pp 1761–1765. (Reprinted in *Rev mycol*, Vol XXII, Fasc 3, Dec 31 1957, pp 300–305; also in *Nouv Observ* . . . , pp 3–8.)

This *Note* was submitted to the Académie des Sciences on Nov. 13, 1957. R.G.W.

10. ———, with Arthur Brack, Hans Kobel, Albert Hofmann, and Roger Cailleux."Déterminisme de la formation des carpophores et des sclérotes dans la culture du *Psilocybe mexicana* Heim, Agaric hallucinogène du Mexique, et mise en évidence de la psilocybine et de la psilocine." Vol 246, March 3 1958, pp 1346–1351. (Reprinted in *Rev mycol*, Vol XXIII, Fasc 1, April 15 1958, pp 106–113; also *Nouv Observ* . . . , pp 9–16; and in Entry 2, pp 247–254.)

11. ———, and Albert Hofmann. "Isolement de la psilocybine à partir du *Stropharia cubensis* Earle et d'autres espèces de champignons hallucinogènes mexicains appartenant au genre *Psilocybe*." Vol 247, Aug 4 1958, pp 557–561. (Reprinted in *Rev mycol*, Vol XXIII, Fasc 3, Oct 15 1958, pp 347–351; also in *Nouv Observ* . . . pp 24–28.)

12. ———, presented by. "Effects psychophysiologiques de la psilocybine." (*Note* of Jean Delay, Pierre Pichot, Mlle Thérèse Lemperière, and Pierre Nicolas-Charles.) Vol 247, Oct 20, 1958, pp 1235–1238.

13. ———, and Roger Cailleux. "Nouvelle contribution à la connaissance des Psilocybes hallucinogènes du Mexique." Vol 249, Nov 9 1959, pp 1842–1845. (Reprinted in *Rev mycol*, Vol XXIV Fasc 5, Dec 31 1959, pp 437–441; also in *Deux Supplé*)

14. ———. *Note* of Guy Stresser-Péan and. "Sur les Agarics divinatoires des Totonaques." Vol 250, Feb 15 1960, pp 1155–1160.

15. ———, and Robert Gordon Wasson. "Une investigation sur les Champignons sacrés des Mixtèques." Vol 254, Jan 29, 1962, pp 788–791.

The foregoing series of *Notes* published by the Académie des Sciences, Paris, are in the nature of progress reports on the researches of the authors into the hallucinogenic mushroom complex of Mexico. R.G.W.

16. Heim, Roger. "Breves latinae diagnoseis hallucigenarum mexicanarum Psilocybarum ad fera specimina pertinentium." *Rev mycol*, Vol XXII, Fasc 1, May 15 1957, pp 77–79. (Reprinted in *Notes prélim* . . . , pp 20–22.)

17. ———. "Diagnosis latina *Conocybes siligineoides* Heim." *Rev mycol*, Vol XXII, Fasc 2, Sept 15 1957, pp 197–198. (Reprinted in *Notes prélim* . . . , pp 36–37.)

18. ———. "Diagnose latine du *Psilocybe Wassonii* Heim, espèce hallucinogène des Aztèques." *Rev mycol*, Vol XXIII, Fasc 1, April 15 1958, pp 119–120. (Reprinted in *Nouv Observ* . . . , pp 22–23.)

19. ———, and Roger Cailleux. "Latina diagnosis *Psilocybes sempervivae* Heim et Cailleux, speciei mutantis hallucinogenae mexicanae per culturam obtentae." *Rev mycol*, Vol XXIII, Fasc 3, Oct 15 1958, pp 352–353. (Reprinted in *Nouv Observ* . . . , pp 29–30.)

20. ———. "Diagnoses latines des Psilocybes hallucinogènes de la stirpe *cordispora*." *Rev mycol*, Vol XXIV, Fasc 2, May 15 1959, pp 103–106.

21. ———. "Les critères d'ordre chimique dans l'étude des affinités chez les Macromycètes." The Linnaeus Commemoration of Uppsala University. Symposium on Systematics of Today, May 29 1957. Published in *Uppsala Univ Årssk*, Vol 6, 1958, pp 48–59.

22. ———. "La Psilocybine en psychiatrie et au-delà." (A propos de la thèse de Mlle Anne-Marie Quétin.) *Rev mycol*, Vol XXVI, Fasc 1, March 15 1961, pp 42–60.

23. ———. "Le Teonanácatl ou chair de Dieu." Muséum National d'Histoire Naturelle, Paris. *Science et Nature*, No 23, Sept-Oct 1957, pp 3–6.

24. ———. "Les actions nerveuses provoquées par les champignons." Muséum National d'Histoire Naturelle, Paris. *Science et Nature*, No 29, Sept–Oct 1958, pp 1–8.

25. ———. "Le syndrome narcoticien chez les Champignons à action cérébrale." *Hist Méd*, Vol 8, No 8, Sept 1958, pp 42–60.

26. ———. "Les investigations anciennes et récentes propres aux Agarics hallucinogènes du Mexique, à leur action et aux substances qui en sont responsables." *Actualités pharmacol*, Vol 12, 1959, pp 171–192.

27. Heim, Roger. "Sur une grave erreur d'interpretation." *Rev mycol*, Tribune Libre, Vol XXIII, Fasc 3, Oct 15 1958, pp 354–360.

This is a reply to Alexander H. Smith's comment in *Mycologia* L(3) 1958: pp 449–452 on the Wassons' Mushrooms Russia & History. See Entry 355. R.G.W.

28. ———. "A propos des champignons à propriétés hallucinatoires du Mexique Central et du Sud." *Bull Soc Franco-Japonaise Biol*, Vol VI, No 7, April 1958. pp 258–267.

Le Figaro

29. Heim, Roger. "On vénère au Mexique des champignons qui suscitent l'hallucination ou la folie . . . " *Chronique scientifique*, *Figaro Littéraire*, April 21 1956. (Reprinted in *Rev mycol*, Vol XXII, Fasc 2, Sept 15 1957, pp 198–202; also in *Notes prélim* . . . , pp 37–41.)

30. ———. "A l'ergot de seigle, qui fit 'le mal des ardents', devrons-nous la guérison des psychoses?" *Chronique scientifique*, *Figaro Littéraire*, Sept 28 28 1957. (Reprinted in *Rev mycol*, Vol XXII, Fasc 2, Sept 15 1957, pp 203–207; also in *Notes prélim* . . . , pp 42–46.)

31. ———. "La gastronomie cède le pas à la science." *Le Figaro Littéraire*, Paris, Oct 18 1958.

Article on annual mushroom exhibit at Muséum National, Paris, featuring Mexican hallucinogenic mushrooms. R.G.W.

32. ———. "Au pays de la découverte, le savant n'entre pas toujours le premier." *Chronique scientifique*, *Figaro Littéraire*, Jan 31 1959.

33. ———. "Les champignons sacrés des prêtres Maya au service de la médecine." *Chronique scientifique*, *Figaro Littéraire*, April 1 1961.

34. ———. "L'art aztèque a-t-il puisé son inspiration dans la drogue?" *Figaro Littéraire*. Aug 4 1962.

35. ———. "Address on the hallucinogenic mushrooms of Mexico, delivered to a Japanese audience." Mycological Society of Japan. *Transactions*, No 7, March 15 1958, pp 14–15.

36. ———. "Hongos alucinógenos de México." Report by César Lizardi Ramos on lecture given by Roger Heim on Aug 6 1959, at the Instituto Francés de América Latina. *El Excelsior*, Mexico City, Aug 9 1959.

37. ———. Intern Botan Congr, 9th Session, Montreal. Report carried by "Science Service." (*World Telegram & Sun*, New York, Aug 21 1959.)

38. Heim, Roger. Les Champignons d'Europe. Paris: Boubée & Cie, 1957, Vol I, pp 162–163; Vol II, p 469.

—. ———, and Albert Hofmann. "La psilocybine et la psilocine chez les psilocybes et strophaires hallucinogènes." See Entry 2, Chap VII, Sec 3, pp 258–262.

39. ———. Moving picture with sound track of mushroom ceremony, accompanied by commentary, photographed and recorded in Sierra Mazateca, Mexico, in 1961. Muséum National d'Histoire Naturelle, Paris. In preparation.

40. Wasson, R. Gordon. "Lightning-bolt and mushrooms: An essay in early cultural exploration." For Roman Jakobson: Essays on the occasion of his sixtieth birthday, Oct 11 1956. The Hague: Mouton & Co, 1956. pp 605–12. Reprinted in revised and amplified version, with illustrations, in *Antiquity and Survival*, The Hague, Vol III, No 1, 1960, pp 59–73. In Dutch. English edition promised for 1962.

41. ———. "Seeking the magic mushroom." Water colors by Roger Heim. *Life Magazine*, May 13 1957, New York. Letters to the Editor, June 3. (International edition, June 10; "En busca de los hongos mágicos," *Life en Español*, June 3.)

42. Wasson, Valentina Pavlovna. "I ate the sacred mushroom." *This Week Magazine*, New York, May 19 1957.

The two foregoing articles, timed to coincide with the publication of Mushrooms Russia and History, drew world-wide attention, and started diverse activities in many circles, lay, scientific, and cultural, all centered in the hallucinogenic mushrooms of Mexico. R.G.W.

43. ———, and R. Gordon Wasson. "The hallucinogenic mushrooms". The New York Botanical Garden. *The Garden Journal*, Jan-Feb 1958.

An historical article summarizing the world's knowledge of and attitude toward the hallucinogenic mushrooms of Mexico during four centuries, from the 16th down to the 20th. R.G.W.

44. Wasson, R. Gordon, and Valentina P. Wasson. Mushroom Ceremony of the Mazatec Indians of Mexico. Recorded by R. Gordon Wasson. With translations and commentary by Eunice V. Pike and Sarah C. Gudschinsky. Folkways Record and Service Corporation, 121 West 47th St, New York 36 N Y. Record listing No FR 8975.

Extracts of a recording made in 1956 in Huautla de Jiménez of a midnight mushroom ceremony. R.G.W.

45. Wasson, R. Gordon, with others. Tape recording of mushroom ceremony held in Sierra Mazateca in 1958, with album of records, transcription

in Mazatec of entire text, annotated translations into Spanish and English, and commentary anthropological, musicological, and linquistic. In preparation.

46. ———. "The divine mushroom: Primitive religion and hallucinatory agents." *Proc Am phil soc*, Philadelphia, Vol 102, No 3, June 24 1958, pp 221–223.

47. ———. "Wild mushrooms: A world of wonder and adventure." *Herbarist* Herb Soc Amer, Boston, Mass, No 25, 1959.

Three cases of accidental ingestion of hallucinogenic mushrooms are here published for the first time. The article in *Life* (*vide* 41) elicited them in letters to the author. They report experiences in Poland, Colorado, and the Fiji Islands. R.G.W.

48. WASSON, R. GORDON. "The hallucinogenic mushrooms of Mexico: An adventure in ethnomycological exploration." *Trans N Y Acad Sci*, Ser II, Vol 21, No 4, Feb 1959, pp 325–339. Reprinted in Drug Experience: First-person accounts of addicts, writers, scientists and others, edited by David Ebin. New York: Orion Press, 1961, pp 311–324.

49. ——— "The hallucinogenic fungi of Mexico: An inquiry into the origins of the religious idea among primitive peoples." *Annual Lecture* of the Mycological Society of America, delivered in Stillwater, Oklahoma, Aug 30 1960. Revised. *Bot Mus Leafl* HARV, Cambridge, Mass., Vol 19, No 7, Feb 1961, pp 137–162.

Appended to this paper is a list of the hallucinogenic fungi of Mexico, both those that truly possess psychotomimetic properties and those others to which the Indians also attribute divinatory powers. To the latter class should be added the puffballs reported in Entry 15, published only in 1962. R.G.W.

50. WASSON, R. GORDON, AND SYLVIA PAU, compiled by. "The hallucinogenic mushrooms of Mexico and psilocybin: A bibliography." *Bot Mus Leafl* HARV, Cambridge, Mass. Vol 20, No 2, Sept 1962, pp 25 *et seq*.

II. THE PAST

a. Primary Sources

COMPILED BY R. G. WASSON AND IRMGARD WEITLANER JOHNSON

51. ANONYMOUS. "Coloquio de la Nueua Conberción y Bautismo de los Quatro Vltimos Reyes de Tlaxcala en la Nueua España." El Teatro de Nueva España en el Siglo XVI, ed by José J. Rojas Garcidueñas. Mexico City, 1935, pp 181–221.

In this religious play a principal character is "Hongol demonio ydolo," a name

obviously derived from the Sacred Mushroom, the object of *odium theologicum* among Spaniards of the 16th century. R.G.W.

52. BASALENQUE, DIEGO. Ms lexicon: Vocabulario . . . Español-Matlatzinca and Matlatzinca-Español. See entries under *hongo que emborracha* and *chohui*. Biblioteca Nacional de Mexico, 1642; also in John Carter Brown Library, Providence, R. I.

 This dictionary securely places the use of the Sacred Mushroom among the Matlatzinca Indians, to the west of Mexico City. R.G.W.

—. BENAVENTE, FRAY TORIBIO DE. See MOTOLINÍA.

53. CÓRDOVA, JUAN DE. Vocabulario en Lengua Çapoteca. Mexico City, 1578. See entries under *honguillo* and *xetas*.

 This dictionary shows that the Sacred Mushrooms were known among the Zapotecs. R.G.W.

54. COVARRUBIAS, GASPAR DE. "Relación de las Minas de Temazcaltepec". (1579) Papeles de Nueva España, Geografía y Estadística. Madrid: Francisco del Paso y Troncoso, 1906. Ser 2, Vol VII, p 20.

 In the annual tribute paid by these Matlatzinca-speaking people to their overlord there is included a shipment of the Sacred Mushrooms. R.G.W.

55. DURÁN, DIEGO. Historia de las Indias de Nueva-España y Islas de Tierra Firme. México: J. M. Andrade y F. Escalante, 1867–1880. 2v. See Vol I, Chap liv, p 431.

 The Sacred Mushrooms were consumed at the celebrations attending the inauguration of Moctezuma, years before the Conquest of Mexico by Cortés in 1519. R.G.W.

56. GILBERTI, MATURINO. Tarascan lexicon. 1559. See entry under *hongo*.

 This lexicon places the use of the Sacred Mushroom in Tarascan country, in Michoacan. R.G.W.

57. Hearing before the Holy Office of the Inquisition in the case of Gonzalo Pérez. (1629) Ms. *Archivos Generales de la Nación*, Mexico City. Vol 340, pp 354–359.

 An episode that takes place in Tarascan country involving the use of mushrooms. R.G.W.

58. HERNÁNDEZ, FRANCISCO. Opera: Historia Plantarum Novae Hispaniae. (Ms written before 1577) Madrid: Ibarra, 1790. 3v. See Vol II, Bk IX, Chap 95.

 This 16th-century Spanish botanist describes the sacred mushrooms but unfortunately his picture of them, which he mentions in his text, is lost. R.G.W.

59. Kakchiquels, Annals of the. Anonymous Kakchiquel Text. English version translated by Delia Goetz (from Spanish version translated by Adrián Recinos). Oklahoma: University of Oklahoma Press, 1953. Also see Annals

of the Cakchiquels, Quiché and English text, edited by Daniel G. Brinton. In Library of Aboriginal American Literature, No VI, Philadelphia, 1885, pp 114–5.

Mushrooms are mentioned in a context that, although obscure, is certainly religious. Today no trace of the use of Sacred Mushrooms has been found in Guatemala, where the Kakchiquel Maya live. For discussion of this text see Entry 1, p 282. R.G.W.

60. LANCIEGO, JOSÉ. Letter to the clergy of the Huasteca. (1726) Extract published in La Parroquia de Tancanhuitz: Datos para su Historia. Univ Autónoma de San Luis Potosí, 1954, p 14.

The good bishop deplores the use of mushrooms among his people. This is the only indication of the use of Sacred Mushrooms in the Huasteca, and unfortunately it is not clear whether Hausteco Indians were using them or Nahuatl-speaking immigrants. R.G.W.

61. Magliabechiano Codex. Loubat edition, Rome, 1904. See p 90. Also published by the University of California, Berkeley, 1903. Reproduced in Entries 1, p 235, and 2, p 33.

One of two illustrations of the Sacred Mushrooms coming down to us from the 16th century. This one, painted probably by an Indian under strong Spanish influence, expresses nevertheless the Indian's awe before the miracle of the mushrooms. R.G.W.

62. Mixe lexicon. (?1800) See entries under *el honguillo con que se emborrachan*. Ms. found by Walter Miller in San Lucas Camotlán and given to Museo National de México.

The only documentary evidence for the use in former times of the Sacred Mushrooms among the Mixe Indians. R.G.W.

63. MOTOLINÍA (TORIBIO DE BENAVENTE). "Ritos antiguos, sacrificios e idolatrías de los Indios de Nueva España, y de su conversión a la fe . . ." (Before 1569) Colección de Documentos para la Historia de México, ed. by Joaquín García Icazbalceta. Mexico City, 1858. See Vol 1, p 23.

A horrifying (and, as we know, fanciful) description, by a devout son of the Church, of the effects of taking the Sacred Mushrooms. He states that their name in Nahuatl, *teonanácatl*, means in that language "God's flesh", and ends his disquisition with the observation that the Indians served the mushrooms in Holy Communion. R.G.W.

64. MOLINA, ALONSO DE. Vocabulario en Lengua Castellana y Mexicana. 1571. See entries under *hongo que emborracha* and *xochinanacatl*.

This 16th-century Nahuatl dictionary securely places the use of the Sacred Mushrooms among the Nahua of the Valley of Mexico. R.G.W.

65. NÁGERA (NÁJERA) YANGUAS, DIEGO DE. Doctrina y Enseñança en la Lengua Maçahua de Cosas muy Utiles, y Provechosas para los Ministros de Doctrina. Mexico City, 1637. Fol 27–29.

A manual for the clergy in which they are told how to ask, in the Mazahua lan-

guage, when confessing their penitents, whether these persist in using the Sacred Mushrooms. R.G.W.

66. Nahuatl poem. "Dolor en la Amistad." (c. 1600) Anonymous. Translated by Angel María Garibay. No 37 in Xochimapictli, colección de Poemas nahuas. Mexico City, 1959.

One of the poems in this Nahuatl anthology mentions expressly the Sacred Mushrooms. Others in the same collection use *xochi*, "flowers", in a sense that suggests it was a metaphor used for the mushrooms. This possibility is reenforced by Molina's lexicon, where *xochinanacatl* is translated by *honguillos que embeodan*, "little mushrooms that inebriate". R.G.W.

67. Otomí lexicon. 1640 Ms., copied from 16th-century ms. now lost. See entries under *hongo que emborracha* and *hongos que enbelezan*. Biblioteca Nacional de México.

This lexicon places the use of the Sacred Mushrooms among the Otomí Indians. R.G.W.

68. Pérez de Zámora Abarca, Pedro. "Relación de Teticpac." (1580) Papeles de Nueva España, Geografía y Estadística. Madrid: Franscisco del Paso y Troncoso, 1905. Vol IV, p 111.

This report places the use of the Sacred Mushrooms in the Valley of Oaxaca, among the Zapotecs. R.G.W.

69. Popol Vuh. Anonymous Quiché Text. English version translated by Delia Goetz and Sylvanus Griswold Morley. Oklahoma: University of Oklahoma Press, 1950. See p 192, reference to mushrooms.

The context is enigmatic, but at least the mushroom citation occurs in a passage that unmistakably relates it to a religious use. R.G.W.

70. Sahagún, Bernardino de.
 (1) Historia General de las Cosas de Nueva España. (16th century)
 (a) Bk IX, Chap viii; Flor Codex, fol 31r-31v.
 (b) Bk X, Chap xxix, Sec 2; Flor Codex, fol 122v.
 (c) Bk XI, Chap vii, Sec 1, par 70 in Nahuatl text; Flor Codex, fol 129v-130r.
 (d) Bk XI, Chap vii, Sec 1, par 74; Flor Codex, fol 130v-131r.
 (e) Flor Codex, illus 516, in Paso y Troncoso; also in Entry 1, fig 14, p 234; and in Entry 2, fig 1, p 32.
 (2) Paralipómenos de Sahagún, translated by Angel María Garibay. Published in Tlalocan, Vol II, No 3, 1947, pp 239, 247.
 (3) Schultze-Jena, Leonard. Gliederung des altaztekischen Volks in Familie, Stand, und Beruf. Stuttgart: W. Kohlhammer, 1952. pp 26–27, 36–37, 58–59, 242–243, 243–244.

Our most important source for the use of the Sacred Mushrooms is the great Franciscan ethnographer Sahagún. The first four citations survive in Spanish and in Nahuatl, the latter presumably being the very words of Sahagún's informant. R.G.W.

71. SERNA, JACINTO DE LA. Manual de Ministros de Indios para el Conocimiento de sus Idolatrías y Extirpación de Ellas. Published in Mexico City, 1892. See Chap IV, Sec 3. Also included in *Anales del Museo Nacional de México*, Vol VI, Mexico City, 1900.

Like Motolinía, this author draws the analogy between the Christian Eucharist and the eating of the mushrooms; he suggests that the Indians regard the flesh of the mushrooms as divine, or as he considers it diabolic. R.G.W.

72. TEZOZÓMOC, FERNANDO DE ALVARADO. Crónica Mexicana. Mexico City, 1958. See Chap 87.

Briefly Tezozómoc tells of the same episode as Diego Durán. See Entry 55. R.G.W.

73. THÉVET, ANDRÉ. "Histoyre du Mechique." (Before 1574) Ms. (Rendered lost work by Andrés de Olmos, Antiqüedades Mexicanas, c. 1543.) Edited by Ed. de Jonghe. *J Soc Amér de Paris*, n. s., Vol. II, 1905, p 18.

This historian recounts an episode dating from the middle of the 15th century, long before the Conquest, in which the Sacred Mushrooms were eaten in Otomí country in a religious context. R.G.W.

74. Trial before the Holy Office of Inquisition, in the case of Mixcoatl and Papalotl. (1537) Ms. Published in Publicaciones del Archivo General de la Nación, Procesos de Indios, Idólatras, y Hechiceros. Mexico City, 1912. Vol III, pp 55 *et seq*.

In this trial the analogy between the Christian Eucharist and the mushroom agape is strikingly brought out, as in Motolinía and de la Serna. R.G.W.

75. YANHUITLAN, CÓDICE DE. (1544) Edited by Wigberto Jiménez Moreno and Salvador Mateos Higuera. Mexico: Instituto Nacional de Antropología e Historia, 1940. See Appendix, p 38.

This source places the Sacred Mushrooms in Mixtec country. R.G.W.

b. Later References

76. BANCROFT, HUBERT HOWE. The Native Races. Vol II, 1874–1876. See p 360.

77. BOURKE, JOHN GREGORY. Scatologic Rites of all Nations. 1891. See pp 89–91.

78. CAIRNS, HUNTINGTON. "A divine intoxicant." *Atlantic Monthly*. Vol 144, No 5. Nov 1929, pp 638–645.

In this article the Safford thesis, denying the existence of hallucinogenic mushrooms in Mexico, received its final expression. R.G.W.

79. Flores, Francisco A. Historia de la Medicina en México. México: Oficina Tipográfica de la Secretaría de Fomento, 1886–1888. 3v. See Vol I, pp 55, 258.

80. Orozco y Berra, Manuel. Historia Antigua y de la Conquista de México. México: G. A. Esteva, 1880. 4v. in 2, See Vol I, p 274; Vol III, pp 375, 437.

81. Safford, William E. "An Aztec narcotic." *J Hered*, Vol 6, July 1915, pp 291–311.

The economic botanist, renowned in his day, in a full-dress study here adumbrated the thesis that the hallucinogenic mushrooms had never existed, and that early Spanish *padres* had confused *peyote* with fungi. R.G.W.

82. ———. "Peyote, the narcotic mescal button of the Indians." *J Am med Assoc*, Vol 77, No 16, Oct 15 1921, pp 1278–1279.

This article, published shortly before Safford's death, shows that he still persisted in his mistaken belief. R.G.W.

83. Siméon, Rémi. Dictionnaire de la Langue nahuatl. 1885. See entries under *nanacatl* and *teonanacatl*.

c. Archeological

—. Borhegyi, Stephan F. de. "Mushroom stones of Middle America. A geographically and chronologically arranged distributional chart." See Entry 1, chart, in pocket at end of Vol II. Hereinafter referred to as Borhegyi's chart, of which a revised version is in Entry 85.

A geographic and chronologic distributional chart of Pre-Columbian mushroom stones and pottery mushroom forms found at various archeological sites in Mexico, Guatemala, and El Salvador published as an *Appendix* in end-pocket form to Vol II of the Wassons' book. Borhegyi distinguishes 5 types (A to E) of stone and pottery mushrooms and illustrates with 48 specimens. (Average height 30cm)

Types:		*Approx. Chronology (revised as of 1962)*
Type A	Anthropomorphic stone sculptures with plain or circularly grooved mushroom caps.	Early or Mid-Pre-Classic (1000 B.C. to 300 B.C.)
Type B	Effigy mushroom stones with circularly grooved caps and square or tripod bases.	Early and Mid-Pre-Classic (1000 B.C. to 300 B.C.)

Type C	Effigy or plain mushroom stones with square or rounded bases without circularly grooved caps.	Late Pre-Classic (300 B.C. to 200 A.D.) and Proto-Classic(?) (200 to 300 A.D.)
Type D	Tripod mushroom stones with plain or carved stems and with clubby or sharp angled feet.	Late Classic (600 to 900 A.D.)
Type E	Miscellaneous and possibly related stone and pottery objects.	Chronological position uncertain. Late Pre-Classic (300 B.C. to 200 A.D.) & Proto-Classic(?) (200 to 300 A.D.)

84. ———. "Mushroom Stone Discoveries." Amatitlán Field Report. Mimeographed, 1960. Milwaukee.

Reports (p 4) the finding of a square based anthropomorphic (Type C) mushroom stone from the shores of Lake Ayarza (Dept Santa Rosa) in Eastern Guatemala. The Specimen was found by a group of Guatemalan skin-divers who have been engaged in a systematic investigation of the inland lakes of Guatemala since 1954, seeking possible Pre-Columbian lake offerings. To date six mushroom stones (Types C and D) have been found in the waters of Lake Amatitlán in the Central Guatemalan Highlands. The specimen from Lake Ayarza is in the private collection of Manfred Töpke, while the others are in the private collections of Dr. Guillermo Mata-Amado and Jorge Castillo, of Guatemala City.

Paper includes (p 7) a preliminary report on the (Type B) miniature mushroom stones found in a cache at Kaminaljuyu, now in the collection of Karl Heinz Nottebohm of Guatemala City (for final report see next Entry). Also reports the finding of a (Type C) mushroom stone fragment (in the shape of an owl) from the recent excavation of the Post-Classic period (1000–1500 A.D.) at the Kakchiquel Maya capital of Iximché, in the Central Guatemalan Highlands.

85. ———. "Miniature mushroom stones from Guatemala." *Amer Antiq*, Vol XXVI, No 4, April 1961, Salt Lake City, Utah, pp 498–504.

Offertory cache of nine miniature mushroom stones and nine miniature *metates* with *manos* from the Verbena cemetery at Kaminaljuyu in Highland Guatemala, dating from the Late Pre-Classic Miraflores phase, 300 B.C. to 200 A.D. All of the mushroom stones are of the Type B variety with a circular groove around the base of the cap (average height 16cm).

A similar but larger Type B mushroom stone, in the shape of a jaguar, has been found in a Miraflores tomb in Mound E-III-3 at the same site (see Shook and Kidder, Entry 103). The cache of nine miniatures demonstrates considerable antiquity for the "mushroom-stone cult," and suggests a possible ceremonial association with the nine Lords-of-the-night and gods of the underworld, as well as the possible existence among the Highland Maya of a nine-day cycle and nocturnal count in Pre-Classic times. The association of the miniature mushroom stones with the miniature *metates* and *manos* greatly strengthens the possibility that, at least in some areas in Pre-Columbian Mesoamerica, *metates* were used to grind the sacred hallucinatory mushrooms to

prepare them for ceremonial consumption. The article includes, as Fig 2 and Table 1, a revised chart of Borhegyi's 1957 chronologic distributional table, and brings up to date the mushroom stone and pottery mushroom finds in Mesoamerica. About 50 archeological sites are listed from Mexico, Guatemala, and El Salvador where mushroom stones and pottery mushrooms have been found during archeological excavations, or in private collections and museums.

All miniature mushroom stones and *metates* with *manos* described in this article are in the private collection of Karl Heinz Nottebohm, of Guatemala City. The large Type B mushroom stone (Fig 3), representing a kneeling young woman (a virgin?) with a *metate*, is from the Hans Namuth collection in New York.

To date this is the only comprehensive article on mushroom stones and pottery mushrooms, and the first report on the existence of miniature mushroom stones.

86. ———. "The Enigmatic Mushroom Stones of Meso-America." Ms. (In preparation) Tulane University, New Orleans. Middle American Research Institute, Middle American Research Records.

 Manuscript in preparation that will present an up-to-date distribution and typology of these enigmatic objects. It will contain photographs and line drawings of over 100 specimens, as well as distributional maps and chronological charts.

87. Brigham, William T. Guatemala, the Land of the Quetzal. New York: Scribner, 1887, see p 280, illustration.

 Illustrates a zoomorphic mushroom stone-like object representing a rabbit or *pisote*, with rounded base (Type E) from the National Museum of Guatemala. Brigham refers to it as a stone seat, implying that these sculptures were so used. It represents the first mushroom stone-like object from Mesoamerica to be described and illustrated. For a similar specimen in the Chicago Natural History Museum (Cat no 48650) see No 44 on Borhegyi's chart. The whereabouts of the piece illustrated by Brigham is unknown.

88. Brinton, Daniel G. "Mushroom-shaped images." *Science*, n.s., Vol 8, No 187, July 29 1898, New York, pp 126–127. See p 127.

 Reply by the noted American ethno-linguist to Sapper's suggestion in *Globus* (1898), Entry 100, that an anthropomorphic mushroom stone illustrated from El Salvador was a phallic symbol. Brinton suggests that since the stone resembles a mushroom or toadstool, it may have been intended by its maker to represent just that. Brinton further suggests that, since the Tseltal-Maya word for mushroom is *hu* and is sufficiently similar to the word used for moon *uh* or *yuh* to recall it in sound, the mushroom stones may have been emblematic of the lunar and nocturnal divinity. According to him the night growth of the fungus would strengthen this mythical alliance. The Type C specimen referred to is now in the Rietberg Museum collection in Zürich. (Cf no 19 in Borhegyi's chart, above cited.) Historically, this is the first known, published reference to mushroom stones as mushroom representations. The next published reference is in Wasson & Wasson, 1957, herein entered as Entry 1.

89. Canals Frau, Salvador. Las Civilizaciones Pre-hispánicas de América. Buenos Aires, Editorial Sudamericana, 1955, p 147. Fig 36.

 Illustration and brief description (p 147) of two effigy mushroom stones with circularly grooved caps (Type B) from Kaminaljuyu, Guatemala, both of which

represent jaguars. They are also illustrated in Borhegy's chart as nos 12 and 15. Figure 36 (left) (Cat no 2366; Lot no C-69) is probably of the Early Pre-Classic Las Charcas phase (1000 B.C. to 500 B.C.), and as such ranks among the earliest known effigy mushroom stones. Figure 36 (right) is from tomb 1 in Mound E-III-3 at Kaminaljuyu (Shook and Kidder, 1952, fig 78*f*) and is one of the first examples (Late Pre-Classic-Miraflores phase, 300 B.C.–300 A.D.) of this problematical sculpture to be excavated. Both specimens are now in the National Museum in Guatemala City (Cat no 2366 and 3450 respectively).

90. Foster, George M. "Some implications of modern Mexican mold-made pottery." *Sthwest J Anthrop*, Vol IV, No 4, 1948, pp 356–370.

According to Foster, some pre-Conquest Mexican pottery was made using convex mushroom-shaped pottery molds. These molds appear to have originated from the practice of molding pots over the upturned bottom of finished vessels. The same technique is still in use at several places in Mexico.

Owing to the fact that some modern mushroom-shaped pottery molds from Tzintzuntzan and Metepec in Mexico (see figs 2, 3) and some Pre-Columbian pottery anvils from North America (see fig 6) have a slight resemblance to the Pre-Columbian pottery-mushrooms from Mexico and El Salvador (see nos 46, 47, 48 in Borhegyi's chart), there exists the slight possibility that pottery-mushrooms were used, not in Pre-Columbian hallucinogenic mushroom rites, but to aid in the shaping and manufacturing of culinary pottery objects. (For publications referring to pottery-mushrooms see Longyear, Entry 94; Lothrop, Entry 95; Lowe, Entry 96; and Stirling, Entry 106).

91. Gann, Thomas. Glories of the Maya. London: Charles Scribner's Sons, 1939, pp 204–6.

Describes the discovery of a plain tripod mushroom stone (Type D) in association with a plain stone yoke, Tiquisate ware figurines, and cylindrical vases with human bones, in a Late Classic (600 to 900 A.D.) Pipil (?) burial ground at Patulul, near Cocales (Dept Suchitepequez) on the South Coast of Guatemala. No illustrations. Similar tripod mushroom stones were found and illustrated later from the same general area by Thompson, Entry 110. Gann mentions that mushroom stones are believed by some anthropologists to be phallic symbols because of their resemblance to the *lingam*. The whereabouts of the specimen excavated by Gann is unknown.

—. Heim, Roger, and R. Gordon Wasson. 1958. Paris. See Entry 2, chap III, pp 113–121, figs 22, 23, pls X, XI, XII.

Illustrates 9 crudely manufactured miniature clay cups (fig 23B) with mushroom-like appliqué designs collected by Marshall Saville between 1899–1900, from Xaaga, near Mitla, Oaxaca, Mexico. These curious cups are now in the collection of the American Museum of Natural History in New York.

Line drawings (figs 22–23) illustrate five Type B and C mushroom stones, reproduced from Borhegyi's charts, nos 31, 15, 32, 25 respectively. Plate X illustrates a Type D tripod mushroom stone with carved stem in the Wasson private collection in New York (cf Borhegyi, no 38). Plate XI illustrates the Type C effigy mushroom stone, first published by Sapper (1898) and now in the Rietberg Museum in Zürich (cf. Borhegyi, no 19). Plate XII illustrates a Type B effigy mushroom stone with circularly grooved cap from the Hans Namuth private collection in New York. The specimen represents a young woman (a virgin?) kneeling before a *metate*.

(Reproduced also as fig 3 in Borhegyi, Entry 85.) Figures 22 and 23, as well as plates XI and XII, are also illustrated by Wasson and Wasson, Entry 1, Vol II, as figs 18, 19, and plates XLIII, and XLIV respectively.

92. KIDDER, A. V., WITH J. D. JENNINGS AND E. M. SHOOK. "Excavations at Kaminaljuyu, Guatemala." Carnegie Institution of Washington. Publ 561, Washington, D. C., 1946. See pp 104, 142, figs 42, 58*c*, 160*a-h*.

This is the first publication reporting (pp 104 and 142) the discovery of mushroom stones in a scientifically controlled excavation. It describes and illustrates (fig 160*a-h*) ten mushroom-shaped stone objects from Guatemala and Mexico. Six of the specimens are plain or effigy mushroom stones (Type C), while three belong to the tripod (Type D) variety. Five have been reproduced in Borhegyi's chart as nos 32, 28, 38, 19, 18. The Type C effigy mushroom stones represent seated human figures, birds, and *pisotes*. Kidder briefly but concisely discusses their known distribution (p 142) in the Highlands and Pacific Slopes of Guatemala and Mexico, and that of similar pottery-mushrooms in El Salvador. He is non-committal as to their use, but refutes previous suggestions that they represent *phalli* or were used as seats. Of the specimens illustrated in the publication, five (fig 160*f,h,e,g* and fig 42) are in the collections of the Guatemala National Museum (Cat nos 2368 a; 2368 b; 4631, 1903, 2715), and two (fig 160*a*, *b*) in the Regional Museum, at Tuxtla Gutiérrez, in Mexico; the whereabouts of the remainder are unknown.

93. KIDDER, ALFRED (Editor). The Art of the Ancient Maya. New York: Thomas Y. Crowell Company, 1959. See figs 3, 4.

Illustrates two effigy mushroom stones with square bases from the Guatemalan National Museum collection, found in the vicinity of Kaminaljuyu in the Guatemalan Highlands. One represents a seated human figure, the other an anthropomorphic squatting toad. Both are of the Type C variety (without cricularly grooved caps), and are also reproduced in Borhegyi's chart as nos 17, 31. As to their use, Kidder mentions that they may represent the sacred hallucinogenic mushroom used to induce trances in some mushroom-rituals in modern Mexico. Both specimens are in the Guatemalan National Museum (Cat nos 2220 and 2209). The toad-shaped mushroom stone (fig 4, Cat no 2209) from Cerro Alux is also illustrated as fig 18 in Wasson and Wasson, Entry 1, and as fig 22 in Heim and Wasson, Entry 2.

94. LONGYEAR, JOHN M. "Archeological investigations in El Salvador." *Mem Peabody Mus*, Vol IX, No 2, Cambridge, 1944. See pottery 'mushrooms,' pl IX-no 26; stone 'mushrooms,' pl XII-no 16.

Illustrates a pottery mushroom (Type E) and a plain stone mushroom (Type C) from El Salvador (Plate IX, no 26, and Plate XII, no 16). They are reproduced in Borhegyi's chart as nos 48 and 37. Longyear has no comments as to their function or distribution. The specimens are in the private collection of Colonel Montalbo, in El Salvador.

95. LOTHROP, SAMUEL KIRKLAND. "Atitlán: An Archeological Study of Ancient Remains on the Border of Lake Atitlán, Guatemala." Carnegie Institution of Washington, Publ 444, Washington, D. C., 1933. See p 29, figs 9*b*, 11*a-c*.

Illustrates two pottery mushrooms (Type E) from El Salvador (fig 11*b*, *c*) which are also reproduced in Borhegyi's chart, nos 46, 47. Also illustrates (based on Villacorta

and Villacorta, Entry 111, p 123) anthropomorphic mushroom stone with a square base (Type C) from Majadas, a section of Kaminaljuyu; and a stone mushroom cap (Type A) from the archeological site of Chukumuk, on the Southeast shore of Lake Atitlán in Guatemala (reproduced as no 9 in Borhegyi's chart). Lothrop does not attempt to describe their distribution or their function. The stone mushroom cap illustrated by Lothrop as fig 9*b* is now in the collection of the Guatemalan National Museum (Cat no 1169). A similar stone mushroom cap from the archeological site of Xikomuk, also at Lake Atitlán (Guatemalan National Museum, Lot no E-194), is reproduced as no 11 in Borhegyi's chart. Lothrop's article is the first to mention and illustrate a stone mushroom cap and "pottery mushrooms." (For other publications referring to pottery mushrooms see Longyear, Entry 94; Stirling, Entry 106; and Lowe, Entry 96.)

96. Lowe, Gareth W. "Archeological exploration of the Upper Grijalva River, Chiapas, Mexico." *Papers of the New World Archeological Foundation*, No 2, Orinda, California, 1959. See pottery 'mushrooms,' pp 75–76, figs 29*f*, 50*a*; stone 'mushrooms,' pp 49, figs 60*c*, *d*.

 Illustrates and describes a pottery mushroom (Type E) found at the archeological site of Guanacaste, near the Grijalva River, Chiapas, and two plain mushroom stones (Type C) from Chiapa de Corzo in Central Chiapas, Mexico. Lowe believes that the pottery mushrooms in Chiapas may have Salvadorean origin. The specimens now are in the Regional Museum at Tuxla Gutiérrez in Chiapas.

97. ———. "Mound 5 and minor excavations, Chiapa de Corzo, Chiapas, Mexico." *Papers of the New World Archaeological Foundation*, No 12 (Publication No 8). Brigham Young University, Provo, Utah. 1962, p 64, fig 40*j*.

 Illustrates (fig 40*j*) and describes (p 64) a Type C mushroom stone reportedly found in a burial (burial no 1) located in a small mound group at Mango Seco, 800 m. east of Chiapa de Corzo. The burial also contained nine undecorated pottery vessels, and a jade necklace and earspools. The mushroom stone, discovered below the right foot of the skeleton of an adult, is of pecked and ground limestone. The burial and its contents are dated to the Mid-Pre-Classic (500–300 B.C.) Francesa phase. The specimen is now in the Regional Museum at Tuxtla Gutiérrez in Chiapas, (Mu no 61–LIV–34).

98. Puharich, Andrija. "Mushroom Icons." *Bull Mycol So San Francisco*, Vol IX, No 12, 1959, pp 8–10, 16.

 Illustrates and comments on two (Type C) effigy mushroom stones from Highland Guatemala; reproduced as Nos 17 and 13 in Borhegyi 1958, 1961. For other items by this author see Entry 141 and sec viii.

—. Ravicz, Robert. 1961. See Entry 143, pp 91–92.

 Ravicz renews the suggestion first made by the Wassons that mushroom stones may have been used in Mexico in Pre-Columbian times as part of the hallucinogenic sacred mushroom ceremony. Among the present day Mixtecs the sacred mushrooms are gathered by a virgin, ground on a *metate*, water added, and the beverage drunk by the person who wishes to consult the mushroom. The association of Pre-Columbian mushroom stones and their use for similar purposes with *metates* is discussed by

Borhegyi, Entry 85. For an anthropomorphic mushroom stone (Type B) representing a woman with a *metate*, see Heim and Wasson, Entry 2, Pl XII, and Borhegyi, Entry 85, fig 3.

99. SANDERS, WILLIAM T. "Ceramic stratigraphy at Santa Cruz, Chiapas, Mexico." *Papers of the New World Archaeological Foundation*, No 13 (Publication No 9). Brigham Young University, Provo, Utah, 1961, pp 16 and 28, fig 15*b*, pl 6*j*.

Illustrates (fig 15*b*, and pl. 6*j*.) and describes (p 16 and p 28) a Type E pottery mushroom fragment, found in the excavation of Trench 2, in level 4. The fragment is of a coarse-paste, unslipped, unburnished, thick-wall utility ware, subsequently named Chiapilla ware. Although only one fragment is illustrated (upside down), Sanders indicates (p 28) that there were several of these "mushroom" pots or "mushroom" vessels in Trench 2. The Chiapilla period at the Santa Cruz site is equated by Sanders with the Mid- or Late- Pre-Classic (500 B.C. –0 A.D.) Francesa and Guanacaste periods (IV–V) at the site of Chiapa de Corzo. Owing to the fact, however, that level 4, in Trench 2, was a disturbed level (see p 9), it is possible that the "mushroom" vessels are of the later Santa Cruz period, which is of late Pre-Classic or Proto-Classic (0 A.D. –200 A.D.) date. The specimens are now in the Regional Museum at Tuxtla Gutiérrez in Chiapas.

100. SAPPER, CARL. "Pilzförmige Götzenbilder aus Guatemala und San Salvador." *Globus*, Vol 73, No 20, 1898, p 327.

Illustrates and describes an anthropomorphic mushroom stone on a square base (Type C) from El Salvador, now in the Rietberg Museum in Züirich (see Wasson and Wasson, Entry 1, Pl XLIII; and Heim and Wasson, Entry 2, Pl XI). Sapper explores the function of these objects, citing Dr. Santiago F. Barbarena, then Director of the National Museum in San Salvador, who believes that mushroom stones represent *phalli*, and that the nine-pointed star, comprising the head-dress of the figure depicted on the mushroom stone, refers to the nine month pregnancy. (For a Type C effigy mushroom stone with a similar nine-pointed crown, found at Kaminaljuyu, see Kidder, Jennings, and Shook, Entry 92, fig 160*f*; reproduced as no 19 on Borhegyi's chart cited above.) Sapper refutes Barbarena's suggestion on the ground that the Pre-Columbian Maya Indians used a 20 month year, and that the wide cap of the stone in question does not resemble a phallus. He urges that comparative studies of these unusual objects be undertaken by archeologists. (See also Brinton's reply to this article, Entry 88.)

101. SELER-SACHS, CAECILIE. Auf alten Wegen in Mexico und Guatemala. 2nd ed. Stuttgart: Strecker and Schröder Verlag, 1925. See pp 182–183.

Illustrates (p 183) and describes (pp 182–183, 236–237) several plain and effigy tripod mushroom stones (Type D) located in private collections by Dr. Seler in the course of his famous reconnaissance trip to Guatemala and Mexico in 1895–96. These stones are reportedly from Chuchun and Los Diamantes on the Pacific Piedmont area of Guatemala, and from Tecpán, Los Pastores, Pompeya, and El Portal in the Central Highlands. They are referred to as "stone seats." Some of the specimens described were donated to the Berlin Museum in 1896, while others found their way to the American Museum of Natural History in New York (Cat nos 30/3122, 30/5448 and 30/50449).

102. SHOOK, EDWIN M. "The present status of research on the Pre-Classic horizons in Guatemala." International Congress of Americanists, 29th Session. The Civilizations of Ancient America. Selected papers, ed by Sol Tax. Chicago: University of Chicago Press, 1951, pp 93–100. See pp 97–98.

Describes the chronological occurrences of the Pre-Classic mushroom stones in the Central Highland area of Guatemala. Asserts that simple stone sculpture probably begins during the Early Pre-Classic Las Charcas phase (1000 to 500 B.C.) in the Maya Highlands with the fashioning of effigy mushroom-like objects. Also mentions the finding of the jaguar-shaped tripod mushroom stone (Type B) in tomb 1, at Mound E-III-3 at Kaminaljuyu (cf Shook and Kidder, Entry 103, p 112, fig 78*f*, and no 15 in Borhegyi's chart, above cited). Shook's premise, that mushroom stones were manufactured during the Las Charcas phase, is not yet fully substantiated. However, mushroom caps (Type A) were discovered in Las Charcas deposits (Guatemala National Museum, Lot nos C-50, C-69, C-43) and are reproduced as nos 8, 10, in Borhegyi's chart. It is also possible that the jaguar mushroom stone (no 12 in Borhegyi's chart) is of Las Charcas date.

103. ———, AND A. V. KIDDER. "Mound E-III-3, Kaminaljuyu, Guatemala." Carnegie Institution of Washington. Contributions to American Anthropology and History, Publ 596, Vol XI, No 53, Washington, D. C., 1952, pp 33–128. See p 112, fig 78*f*, fig 13-no 193.

Shook and Kidder describe the finding of an exquisitely carved tripod effigy mushroom stone (Type B) in the rich Mid-Pre-Classic (Miraflores phase, 300 B.C. to 200 A.D.) tomb 1 at Kaminaljuyu. This jaguar-shaped mushroom stone is reproduced as no 15 in Borhegyi's chart. Kidder and Shook earlier contended (1946) that mushroom stones are products of the Classic period. The finding of this mushroom stone in a sealed Miraflores phase tomb (fig 13, no 193) establishes with finality that at least certain types of mushroom stones (Types A, B, C) are of Pre-Classic date, and that the mushroom stone cult among the Highland Maya was in vogue as early as 300 B.C. The specimen is now in the Guatemalan National Museum collection (Cat no 3450). This Pre-Columbian jaguar mushroom stone is the first reported from a tomb.

104. ———. "Lugares arqueológicos del Altiplano Meridional Central de Guatemala." *Revista del Instituto de Antropología e Historia de Guatemala*, Vol IV, No 2, 1952, pp 3–40. See pp 5, 7, 10, 11, 16, 19.

In his archeological survey of the Central Guatemalan Highlands, Shook describes 103 archeological sites, their location, architecture, and the specimens collected from each site. Seven sites yielded mushroom stones of the effigy (Type B and C) and tripod (Type D) variety. The seven sites are Aeropuerto, Agua Caliente, Alux, Aurora, Cementerio, Eucaliptus, and Kaminaljuyu. They are reproduced as nos 2, 3, 4, 8, 10, 12, 13, 15, 17, 18, 19, 20, 27, 28, 29, 31, 38, 39, 40 in Borhegyi's chart Shook's article represents the first attempt to survey the distribution of mushroom stones in the Central Guatemalan Highlands. Most of the specimens referred to in Shook's article are in the collections of the Guatemalan National Museum.

105. SORENSON, JOHN L. "An archaeological reconnaissance of West-Central Chiapas, Mexico." *Papers of the New World Archaeological Foundation*, No 1, Orinda, California, 1956, pp 7–19. See p 13.

Mentions the finding of plain mushroom stones (Type C) near the Grijalva River at the archeological site called La Grandeza in Chiapas. Although Sorenson does not illustrate them, the stones appear to be similar to the ones reported by Kidder, Jennings, and Shook (Entry 92 fig 160*a*, *b*) from nearby Ococingo, Chiapas (now in the Regional Museum at Tuxla Gutiérrez), and reproduced as no 32 in Borhegyi's chart.

106. STIRLING, MATTHEW W. "An archaeological reconnaissance in Southeastern Mexico." *Bull No 164 Bur Amer Ethnol.* Anthropological Papers No 53; pp 213–40. Washington, D. C., 1957. Pottery mushrooms, Plates 59 *i*, *e*, *f*, *h*, and 65 a-3; pp 238–9.

Five pottery mushrooms (Type E) are illustrated upside down and described mistakenly as tall pottery jars with round "bottoms" expanded to bowl shape. The "bottoms" are roughened by textile imprints and by stamping them with crinkled edges of pecten shell. One specimen (fig 65 a-3) was found in a sealed tomb at the site of Isla (near Paraíso and Bellote) in association with typical Maya Proto-Classic (200 to 300 A.D.) pottery (unbridged spouted vessels, mammiform feet, etc.). Four similar pottery mushrooms were found in a shell mound at Ceiba, also near Bellote in the State of Tabasco, not far from the Atlantic. This find helps us to assign a tentative proto-Classic date to the pottery mushrooms found throughout Southern Mexico (Veracruz, Tabasco, Campeche, Oaxaca, Chiapas) and Eastern El Salvador. Similar (Type E) pottery mushrooms are reproduced as nos 46, 47, 48 in Borhegyi's chart. The specimens found by Stirling are in the Regional Museum at Villahermosa in Tabasco.

107. STROMSVIK, GUSTAV. "Exploration of the Cave of Dzab-Na, Tecoh, Yucatán." Carnegie Institution of Washington. Current Reports, Vol II, No 35, Cambridge, Mass., pp 463–470. See pp 466, 468, fig 2*g*.

Illustrates and describes the only possible mushroom stone fragment (stem and lower portion missing) ever reported from Yucatán where mushroom stones seem to be absent. Fragment was found by Stromsvik in the South East gallery of the Dzab-Na Cave, located near the village of Tecoh, south of Mérida. It was discovered in association with a slate-ware bowl, a wooden statuette, and six broken *metates* with short *manos*. The specimen consists only of a cap, so that it cannot be ascertained for sure whether it was a grinding implement or, less likely, the top portion of a mushroom stone. Similar doubt is expressed by Heim and Wasson, Entry 2 (p 117, foot 1). This is why it was omitted from the distributional list of Borhegyi. The fragment along with other material from the cave is in the Regional Museum at Mérida, in Yucatán.

108. TERMER, FRANZ. "Auf den Spuren rätselhafter Völker in Süd-Guatemala." *Die Umschau*, Frankfurt-a-M, No 26, 1942. pp 389–392. See fig 7.

Illustrates, as fig 7, a zoomorphic mushroom stone (Type C) representing a toad(?) from Guazacapan (Dept Santa Rosa) on the Southeastern Coast of Guatemala. Termer believes that the specimen may pertain to the Pipil culture, known to have influenced this area during the Classic period (300–900 A.D.), and that it represents a fertility idol, in the form of a phallus, attached to the back of this toad. The specimen is similar to a toad-shaped mushroom stone from Cerro Alux, near Mixco (Guatemala

Highlands), reproduced as no 31 in Borhegyi's chart. The whereabouts of the specimen illustrated by Termer is unknown. There are similar specimens in local private collections (Faustino Padilla Collection at Lake Ixpaco, Dept Santa Rosa).

109. THOMPSON, J. ERIC S. "A trial survey of the Southern Maya area." *Amer Antiq*, Vol IX, No 1, 1943, pp 106–134. See p 121, pl X*d*.

Illustrates an anthropomorphic mushroom stone representing a seated individual with a mushroom cap (Type A). The specimen (now in the Chicago Natural History Museum, Cat no 48649) comes from the Central Highlands of Guatemala, and is reproduced as no 5 in Borhegyi's chart. Thompson refers to the piece as a huge mushroom-like object and mentions that some anthropologists refer to them as stone stools, but asserts that they could hardly have been comfortable seats.

110. ———. "An Archeological Reconnaissance in the Cotzumalhuapa Region, Escuintla, Guatemala." Carnegie Institution of Washington. Contributions to American Anthropology and History, Publ 574, Vol IX, No 44, Washington, D. C., 1948, pp 1–95. See p 24, figs 19*f*, 20*b*.

Describes and illustrates the finding of tripod mushroom stones with plain stems (Type D) at Finca el Baúl (Dept Escuintla), a site on the Coastal Piedmont of Guatemala. Several fragments and one complete specimen (fig 20*b*) came from the excavation of an offertory cache-pit in front of the platform on which stood Monument 3, a huge boulder sculpture, representing an aquiline-nosed, bearded individual. Associated in this cache-pit with the mushroom stones were other small stone sculptures, such as yokes, vertically tenoned anthropomorphic and zoomorphic sculptures, and some pottery sherds. On the basis of the contents of the pit, Thompson was able to assign the tripod mushroom stones (Type D) to the Late Classic San Juan phase (600–900 A.D.). This chronological assignment is substantiated by the finds of Gann (1939) at Patulul where a plain tripod mushroom stone was found in association with a Late Classic burial. Thompson refers to the mushroom stones found at El Baúl as stone seats. They are reproduced as no 39 in Borhegyi's chart. The mushroom stones are in the private collection of Carlos Herrera at El Baúl.

Spanish version of same: "Tentativa de reconocimiento en el area Maya Meridional." *Revista del Instituto de Antropología e Historia de Guatemala*, Vol I, No 2, Guatemala, 1949, pp 23–48. See p 35, Pl IV*d*. Also published by Biblioteca Guatemalteca de Cultura Popular. *Arqueología Guatemalteca*, Vol XX, Guatemala, 1957, pp 23–64. See p 43, Pl IV*d*.

111. VILLACORTA, ANTONIO J. C., AND CARLOS A. VILLACORTA. Arqueología Guatemalteca. Guatemala, 1927. See pp 123–125.

Illustrates and describes two anthropomorphic mushroom stones (Types A and C) with square bases, found in the vicinity of Kaminaljuyu (La Majada) in the Central Guatemalan Highlands, and forming part of the local private collection of Don Carlos Galluser. The specimen (p 125) with the mushroom cap (Type A) is reproduced as no 4 in Borhegyi's chart, while the other (p 123, Type C) is illustrated as fig 11*a* in Lothrop, Entry 95, and fig 23*d* in Heim and Wasson, Entry 2. They are described by the Villacortas as fantastic and humorous stone sculptures with mushroom-like hats. The present whereabouts of the specimens is unknown.

112. VILLACORTA, CARLOS A. "Sitio arqueológico de origen Maya-tolteca entre Guatemala y Mixco; su exploración, y últimas piezas del tipo arcaíco allí

encontradas, que ya figuran en la collección del Museo de Guatemala." *Revista del Museo Nacional de Guatemala*, No 2, Guatemala. 1932. See pp 31–32.

Illustrates and describes a zoomorphic mushroom stone with a square base (Type C) from Cerro Alux, a hill above the present Pokomam Indian town, Mixco, northwest of Guatemala City. The specimen represents a squatting anthropomorphic toad. It is reproduced as no 31 in Borhegyi's chart; as fig 22 in Heim and Wasson, Entry 2; and as fig 4 in Kidder, Entry 93. The piece is now in the National Museum in Guatemala City (Cat no 2209).

—. Wasson, Valentina Pavlovna, and R. Gordon Wasson. Mushrooms Russia and History. New York: Pantheon Books, 1957. See pp 275–286, figs 18, 19, pls XLIII, XLIV. Entry 1 in this bibliography.

Illustrates and describes 7 mushroom stones from the Guatemalan Highlands and Chiapas Mexico. The line drawings (fig 18, 19) illustrate 5 Type B and C mushroom stones, reproduced by Borhegyi's chart as nos 31, 15, 32, 25 respectively. Plate XLIII illustrates the Type C effigy mushroom stone first published by Sapper and now in the possession of the Rietberg Museum in Zürich. Plate XLIV illustrates a Type B effigy mushroom stone with circularly grooved cap from the Hans Namuth private collection in New York, representing a young woman (a virgin?) kneeling before a *metate*. (Reproduced also as fig 3 in Borhegyi's chart.) The drawings and plates in this book are also illustrated as figs 22, 23 and plates XI, XII in Heim and Wasson, Entry 2. The Wassons describe in detail (pp 275–286) their research in Mexico and Guatemala, relative to the modern use of hallucinogenic mushroom by Indian groups in Mexico, and convincingly associate the use of mushroom stones with similar rites in Pre-Columbian Mesoamerica.

III. ANTHROPOLOGICAL

See also Entry 1, Chap V, sec 15; Entry 2, Chap II

113. Aguirre Beltrán, Gonzalo. Medicina y Magia: El proceso de aculturación y el curanderismo en México. Mimeographed. Mexico City, 1955. See Chap 6, p 7.

This admirable work, which deserves publication, explores the early sources and poses a number of problems concerning the use of hallucinogenic agents including the Sacred Mushrooms that call for further study. R.G.W.

114. Burke, Omar M. "Tunisian caravan." *Blackwood's Magazine*, Vol 291, No 1756, Feb 1962, pp 123–140. See pp 132–3.

The author draws an analogy between the Arab dervishes and our discoveries in Mexico. R.G.W.

115. De Ropp, Robert S. Drugs and the Mind. New York: St. Martin's Press, 1957. Chapter 7: Brews strange and brews familiar. Spanish edition: Las Drogas y la Mente; Mexico, Editorial Continental. 1959.

116. FABING, HOWARD D. "On going berserk: A neurochemical inquiry." Read at the Annual Meeting of the American Psychiatric Association, 112th Session, Chicago, Spring, 1956. *Sci Mon* N. Y., Vol 83, No 5, Nov 1956, pp 232–237. Reprinted simultaneously in *Amer J Psychiat*, Vol 113 No 5, Nov 1956, pp 409–415.

117. ———. "Toads, mushrooms, and schizophrenia." *Harper's Magazine*, Vol 214, No 1284, May 1957, pp 50–55.

118. FANCHAMPS, A. "La psychopharmacologie moderne et les drogues magiques mexicaines." *Rev méd Suisse rom*, Vol 82, 1962, pp 15–31.

A survey of the whole subject, anthropological, mycological, chemical, and medicinal. R.G.W.

119. GAMIO, MANUEL. La Población del Valle de Teotihuacan. México: Talleres Gráficos, 1922. Vol II. See p 413.

120. GRAVES, ROBERT. "What food the Centaurs ate." Stories Talks Essays Poems Studies in History. London: Cassell, 1958. pp 319–343. Also published in Food for Centaurs. New York: Doubleday & Company, 1960. pp 257–282.

121. ———. "Mushrooms, food of the gods." *Atlantic Monthly*, Vol 200, No 2, August 1957, pp 73–77.

In this and the preceding entry Mr. Graves works out an ingenious hypothesis that the formulae for ambrosia and nectar in ancient Greece can be arrived at by writing down the insipid recipes given by the ancient writers and discovering that the initial letters spell "mushrooms" in Greek. R.G.W.

122. ———. "The poet's paradise". Address delivered to the Oxford University Humanist Group, 1961. Published in Oxford Addresses on Poetry. London: Cassell, 1962, pp 109–129.

123. ———. "How to avoid mycophobia." Also an editorial note by Martin Levine. *Saturday Review of Literature*, May 11 1957, pp 21–22, 47.

124. ———. "Diseases of scholarship, clinically considered." A lecture given on Feb 13 1957, at Yale University. Five Pens in Hand. New York: Doubleday & Company, 1958. pp 73–90. See pp 87–88.

125. ———. "A journey to paradise: Of toadstools and toxins, and a vivid tour of the Heaven (and Hell) that lies within us all." *Holiday*. Vol 32, No 2, Aug 1962, pp 36–7, 110–1.

126. GUERRA, F., AND H. OLIVERA. Las Plantas Fantásticas de México. Mexico: Imprenta del Diario Español, 1954. See pp 7–12.

An uncritical compilation from secondary sourses, some of them unreliable. R.G.W.

127. HEIZER, ROBERT F. "Mixtum Compositum: The use of narcotic mushrooms by primitive peoples." *Ciba Symposia*, Vol 5, No 11, Feb 1944, pp 1713–1716.

This article, sent to us by Robert Graves in Sept 1952, first apprised us of the mushroom cult in Mexico and sparked our later investigations. At the same time Hans Mardersteig of Verona sent us a drawing of the mushroom stone on exhibit in the Rietberg Museum, Zurich, which we later discovered was the one described in Entry 100 and which we linked with the Mexican Sacred Mushrooms. R.G.W.

128. HOOGSHAGEN, SEARLE. "Notes on the sacred (narcotic) mushroom from Coatlán, Oaxaca, Mexico." *Okla Anthrop Soc Bull*, Vol 7, 1959, pp 71–74.

An important contribution to contemporary anthropology for the light it sheds on the feelings toward the Sacred Mushrooms of the Mixe people. The author has a sound grasp of the Mixe language and is gifted with rare intuition. R.G.W.

129. JOHNSON, JEAN BASSETT. "The elements of Mazatec witchcraft." Gothenburg Ethnographical Museum. *Ethnological Studies* 9, 1939. pp 119–49.

130. ———. "Some notes on the Mazatec." Lecture before Sociedad Mexicana de Antropología, Mexico, Aug 4 1938. Later published by Editorial Cultura, México, 1939.

On the night of July 16–17 1938 the young anthropologist Jean Bassett Johnson, with three companions (Bernard Bevan, Irmgard Weitlaner, and Louise Lacaud), witnessed a mushroom ceremony in Huautla de Jiménez. They were the first white persons known to have had this experience, and in the two preceding entries Johnson gave his account of that event. Later he lost his life in the 1939–45 war, when the American forces landed in North Africa, in Nov 1942. R.G.W.

131. KOBAYASI, YOSHIO. "Questions about fungi, from Wasson." (In Japanese) An exchange of letters between Professor Kobayasi and R. Gordon Wasson. *Nat Sci & Mus*, Tokyo, Vol XXV, Nos 1–2, 1958, pp 41–43.

132. LA BARRE, WESTON. "Native American beers." *Amer Anthrop*, n.s. Vol 40, April-June 1938, p 234, ftn 37.

133. ———. "The Peyote cult." *Yale Pub Anthrop*, No 19, 1938, p 7, appendix 3.

134. MARTÍNEZ, MAXIMINO. Plantas Utiles de la Flora Mexicana. México: Ediciones Botas, 1959. See pp 564–566.

135. MILLER, WALTER S. Cuentos Mixes. México: Instituto Nacional Indigenista, Biblioteca de Folklore Indígena, late 1956. See pp 37–47, 218–220.

In recording stories gathered among the Mixe Indians Miller reports two involving the Sacred Mushrooms. R.G.W.

136. NELKEN-TERNER, ANTOINETTE. Les Champignons Hallucinogènes de Huautla de Jiménez. Ms. report submitted to Professor Javier Romero, Head of Departamento de Investigaciones, Instituto Nacional de Antropología e Historia, Mexico City, July 2 1959. 11 pages.

137. Pérez de Barradas, José. Plantas Mágicas Americanas. Madrid: Consejo Superior de Investigaciones Científicas Instituto 'Bernardino de Sahagún.' 1957. See pp 234, 238, 267.

138. Pike, Eunice V. Not Alone. Chicago: Moody Press, 1956. See pp 109–110.

139. ———. "Mazatec sexual impurity and Bible reading." *Practical Anthropology*, Tarrytown, N. Y. Vol VII, No 2, March-April 1960, pp 49–53.

140. ———, and Florence Cowan. "Mushroom ritual vs Christianity." *Practical Anthropology*, Vol VI, No 4, July-Aug 1959, pp 145–150.

—. ———, and Sarah C. Gudschinsky. See Entry 44.

—. ———. For letter to R. Gordon Wasson, see Entry 1, pp 242–5, and Entry 2, pp 47–8.

These valiant women, who have lived for years among the Mazatecs, have made an invaluable contribution to our knowledge of the role of the Sacred Mushrooms in the lives of the Indians. R.G.W.

141. Puharich, Andrija. "The mushroom in myth." *Bull Mycol Soc San Francisco*. Vol IX, No 12, 1959, pp 3–7.

For other entries by this author see Entry 98 and sec viii. R.G.W.

142. Ramsbottom, John. Mushrooms & Toadstools. London: Collins, 1953. See pp 49–51.

143. Ravicz, Robert. "La Mixteca en el estudio comparativo del hongo alucinante." *An Inst Nac Antrop Hist*, Mexico. Vol 13, 1960 (1961), pp 73–92.

An anthropological study of the role of the Sacred Mushrooms in one region of the Mixetca, based on observations made in 1960 in the company of R. Gordon Wasson. R.G.W.

144. Reko, Blas Pablo. "De los nombres botánicos Aztecos." *El México Antiguo*, Vol I, No 5, Feb 1919, pp 113–157. See entry under *nanacatl*.

145. ———. Letter to J. N. Rose, U. S. National Museum. U. S. National Herbarium. Herbarium Sheet No 1745713, Washington, D. C., 1923.

146. ———. Mitobotánica Zapoteca. Mexico: 1945. See pp 14, 44, 53, 95.

147. ———. "Nombres botánicos Chinantecos." *Boletín de la Sociedad Botánica de México*, No 8, 1949, pp 9–20; see p 12. See Entry 1, p 238n.

Reko was the modern precursor of all subsequent workers on the problem of the Sacred Mushrooms. An indefatigable field worker, his observations drew little attention at the time, but later they were fully recognized and his priority is now assured. R.G.W.

148. Reko, Victor A. Magische Gifte. Stuttgart: Ferdinand Enke, 1936 (1938, 1949). See pp 123–132.

149. SCHULTES, RICHARD EVANS. "Peyote and plants used in the Peyote ceremony." *Bot Mus Leafl* HARV, Cambridge, Vol IV, No 8, April 12 1937, pp 136–137.

150. ———. "Peyote (Lophophora Williamsi) and plants confused with it." *Bot Mus Leafl* HARV, Cambridge, Vol V, No 5, Nov 19 1937, pp 69–73.

151. ———. "The identification of Teonanacatl, a Narcotic Basidiomycete of the Aztecs." *Bot Mus Leafl* HARV, Cambridge, Vol VII, No 3, Feb 21 1939, pp 37–54.

This Leaflet drew considerable attention in scientific circles and laid the foundation for all subsequent serious work in the field. R.G.W.

152. ———. "Teonanacatl, the narcotic mushroom of the Azetcs." *Amer Anthrop*, n.s., Vol 42, 1940, pp 429–443. See also J. B. Johnson's comments thereon, pp 449–450.

153. ———. "Botany Attacks the Hallucinogens." The Pharmaceutical Sciences: Pharmacognosy, Third Lecture Series, 1960, pp 169–185.

154. ———. "From witch doctor to modern medicine: Our knowledge of New World narcotic plants, with special reference to the mushrooms." Report on lecture give on March 21 1960, at the Boston Mycological Club, Waltham, Mass. *Bull Boston mycol Cl*, No 2, April 1960.

155. ———. "Tapping our heritage of ethnobotanical lore." Paper presented on May 22 1960, at the Annual Symposium of the Society for Economic Botany, 1st Session. *Econ Bot*, Vol 14, No 4, Oct-Dec 1960 (Feb 1961), pp 257–262.

—. ———. See Entry 354.

156. SODI MORALES, DEMETRIO. "Las plantas alucinantes Mexicanas." *El Universal*, Mexico City, Oct 4 1959.

157. ———. "Las investigaciones con plantas alucinantes Mexicanas." *Boletín del Centro de Investigaciones Antropológicas de México*. No 7, May 1 1906, Mexico City, pp 14–18.

—. STRESSER-PÉAN, GUY, AND ROGER HEIM. See Entry 14.

158. ———, AND ROGER HEIM. "Nouvelles récoltes d'Agarics hallucinogènes en pays totonaque." *Rev mycol*, Vol XXVI, Fasc 3, Sept 15 1961, pp 173–9.

159. TIBÓN, GUTIERRE. "Gog Magog." (Column) *El Excelsior*, Mexico City, Oct 22, Dec 3, 10, 17, 27, 31, 1956; Jan 8, 17, 19, 30, 1957; Jan 9, 16, 1961.

A brilliant journalist, Tibón reported accurately on our researches in Huautla without ever having met us, and his columns helped to precipitate the publication of our book, Entry 1. R.G.W.

160. Vilia Rojas, Alfonso. (Introductory Notes) Cuentos Mixes, by Walter S. Miller. Mexico: Instituto Nacional Indigenista, Biblioteca de Folklore Indígena, late 1956. pp 27–47. Reprinted as a feature article in *Las Novedades*, Mexico City, Sept 21 1957.

161. Wassén, S. Henry. "Från de gamla aztekernas och moderna cunaindianernas medicinska värld." *Farm Revy*, 1960 (1961), pp 132.

162. Yu, Ching-jang. "Laughing mushroom." (In Chinese) *The Continent Magazine*, Taipei, Vol XIX, No 8, Oct 31 1959, pp 1–4.

IV. MYCOLOGICAL

For the basic papers on the mycological aspects of the hallucinogenic mushrooms of Mexico see entries under Heim, Roger, in section I of this bibliography.

163. Ames, Ralph W. "The influence of temperature on mycelial growth of Psilocybe, Panaeolus, and Copelandia." *Mycopathol et Mycol Appl*, Vol 9, Fasc 4, Sept 29 1958, pp 268–274.

164. Guzmán Huerta, Gastón. "El habitat de *Psilocybe muliercula* Singer & Smith (=*Ps Wassonii* Heim), Agaricáceo alucinógeno Mexicano." *Rev Soc Mex Hist Nat*, Vol XIX, Nos 1–4, Dec 1958, pp 215–229.

165. ———. Estudio taxonómico y ecológico de los hongos neurotrópicos mexicanos. Instituto politécnico Nacional, Escuela Nacional de Ciencias Biológicas, Mexico City, 1959.

166. ———. "Sinopsis de los conocimientos sobre los hongos alucinógenos mexicanos." *Boletín de la Sociedad Botánica de México*, No 24, Nov 1959, pp 14–34.

167. ———. "Nueva localidad de importancia etnomicológica de los hongos neurotrópicos mexicanos (Necaxa, Pue., México)." *Ciencia*, Mexico, Vol XX, Nos 3–4, June 10 1960, pp 85–88.

168. ———. "Notas sobre algunos hongos superiores en el Valle de México." *Yoliliztli*, Vol I, No 1, Dec 1958, pp 6–12.

—. Herrera, Teófilo. See Zenteno Z., Martha.

169. Hesler, L. R. Mushrooms of the Great Smokies. University of Tennessee, Knoxville, Tenn, 1960. See pp 12–13.

170. Singer, Rolf. "The 'Agaricales' (mushrooms) in modern taxonomy." University of Tucumán, Argentina. *Lilloa*. Vol 22, 1949 (1951). 2nd ed, fully revised and enlarged, published in Aug 1962 by J. Cramer, Weinheim,

Germany. Both editions in English. 1st ed 832 pp; 2nd ed 915 pp plus plates and illus. In 1st ed see pp 472, 506, 507. In 2nd ed see pp 543–4.

In 1941 or thereabouts Dr. Singer, working over mushroom collections in the Farlow at Harvard, came upon a specimen that R. E. Schultes had brought back in 1938 from Huautla de Jiménez and that, according to Schultes' field notes, the Mazatec Indians had said was vision-producing. Dr. Singer correctly identified it and he was the first person to associate the genus *Psilocybe* with the Mexican sacred mushrooms. His priority lies in this fungal identification in the Cambridge laboratory. Unfortunately his discovery proved to be stillborn. He did not disclose what he had found even to Dr. Schultes, who would have been intensely interested. He published nothing on the subject until about a decade had elapsed, when in the first edition of his work on the systematics of the *Agaricales*, more than 800 pages long, he dropped in casually two brief, enigmatic allusions, lost in the expanse of that vast work, to the use of *Psilocybe* sp. by Mexican Indians. He cited no source or authority. Those of us who later became interested in the identification of the species so used would have been helped by Dr. Singer's discovery, had we known of it, and would have been delighted to give him full credit. When we published our book, some 15 years had elapsed from the date of this identification. He had done nothing with it. We were ignorant of it. We owed him nothing. He revealed to me his prior identification of the mushroom specimen when we met him, on the one and only occasion, at Huautla de Jiménez and at the nearby airstrip, on Monday, July 15, 1957, during his hurried passage through an area that we had been studying for some years. By this time we had done much of our work and had brought out our book, here listed as Entry 1. It is understandable that the circumstances should have caused Dr. Singer disappointment, but I must disclaim responsibility for them.

In the second edition of his *Agaricales*, on pp 543–4, Dr. Singer greatly expands his comment on the use and properties of these mushrooms. His cultural observations must be read with caution. He asserts that the Guatemala Indians use the mushrooms as a drug. Until our book came out in 1957 this had never been reported by any student of the indigenous cultures. Since our book appeared no one has reported from Guatemala the use of these mushrooms. In our book we advanced the bold surmise that there had once been a mushroom cult in Guatemala of which the symbols—the archeological artifacts known as "mushroom stones" and pottery "mushrooms"—are occasionally found today. According to our hypothesis, the ritualistic use had prevailed for centuries, even millennia, but had died out in the Maya country in Pre-Columbian times, for reasons unknown. The resolution of this problem hangs on evidence that is being slowly accumulated. That Dr. Singer should link the present-day Maya with the use of the Sacred Mushrooms shows how alien to him are the problems of Indian culture. He made a like assertion before, in the *Bull* of the Chicago Nat His Museum (see Entry 171), whereupon we drew his attention by private communication to his error. He now persists in it. R.G.W.

171. ———. "Sacred mushrooms inspire medical research." *Chicago Nat Hist Mus Bull*, Dec 1957, p 7.

172. ———, AND ALEXANDER H. SMITH. "New species of Psilocybe." *Mycologia*. Vol 50, No 1, Jan-Feb 1958, pp 141–142.

173. ———. "Mycological investigations on Teonanácatl, the Mexican hallucinogenic mushroom." Part I: "The history of Teonanácatl, field work and

culture work." Part II, with Alexander H. Smith: "A taxonomic monograph of Psilocybe, section Caerulescentes." *Mycologia*, Vol 50, No 2, March-April 1958, pp 239–261, 262–303.

174. ———. "Pilze, die Zerebralmyzetismen verursachen." *Schweiz Z Pilz*, Vol 36, No 6, June 15 1958, pp 81–89.

175. ———, WITH ALEXANDER H. SMITH AND G. GUZMÁN HUERTA. "A new species of Psathyrella." *Lloydia*, Vol XXI, No 1, March 1958, pp 26–28.

176. ———, WITH S. I. STEIN, RALPH W. AMES, AND ALEXANDER H. SMITH. "Observations on agarics causing cerebral mycetisms." *Mycopathol et Mycol Appl*, Vol 9, Fasc 4, Sept 29 1958, pp 261–284.

177. ———. "Fungi Mexicani, Series secunda . . . Agaricales." *Sydowia*: *Ann Mycol*, Vol XII, 1958, Horn, Lower Austria, pp 221–243. See pp 234–243.

178. ———. "Hongos alucinógenos." Lecture delivered on Dec 4 1958. *Bol Acad Nac Cienc*, Córdoba, Argentina, Vol XLI, Dec 1959, pp 31–46.

—. SMITH, ALEXANDER H. See Entry 173, Part II; also Entries 172, 175 and 176.

—. ———. For review of Entry 1, see Entry 355.

179. ZENTENO Z., MARTHA, AND TÉOFILO HERRERA. "Hongos alucinantes de Mexico: Datos bibliográficos. Obtención de Carpóforos de *Psilocybe cubensis* (Earle) Singer." *Anales inst biol*, Vol XXIX, Nos 1–2, March 31 1959 (dated 1958), pp 49–72.

V. CHEMICAL

VI. PHARMACOLOGICAL

VII. PSYCHOLOGICAL, PSYCHIATRIC, CLINICAL

180. ALHADEFF, BENJAMIN WILSON. "Les effets psychotomimétiques du Délyside (LSD 25) et de l'Indocybine (Psilocybine) dans l'exploration clinique de la personalité." *Méd et Hyg*, Geneva. Vol 20, No 548. May 9 1962. pp 392–3. [VII]

181. ABRAMSON, HAROLD A., WITH A. ROLO, B. SKLAROFSKY, AND J. STACHE. "Production of cross-tolerance to psychosis-producing doses of lysergic acid diethylamide and psilocybin." *J Psychol*, Vol 49, 1960, pp 151–154. [VII]

182. BALESTRIERI, ANTONIO. "Studies on cross tolerance with LSD-25, UML-491, and JB-336." *Psychopharmacologia*, Vol 1, No 3, 1960, pp 257–259. [VII]

183. Benedict, R. G., with L. R. Brady and V. E. Tyler, Jr. "Occurrence of psilocin in *psilocybe baeocystis*." *J pharm Sci*, Vol 51, No 4, April 1962. pp 393–4. [v]

184. Bircher, R. P. The present Status of Psychotomimetic Drugs, with Special Reference to LSD and Psilocybin. Unpublished paper prepared for Sandoz Inc, early 1960. [vii]

185. Blaschko, H., and W. G. Levine. "Enzymic oxidation of psilocine and other hydroxyindoles." *Biochem Pharmacol*, Vol 3, 1960, pp 168–169. [v]

186. ———, and W. G. Levine. "A comparative study of hydroxyindole oxidases." *Brit J Pharmacol*, Vol 15, No 4, Dec 1960, pp 625–633. [v]

187. de Boor, W. "Psilocybin eine neue psychotrope Substanz." *Dtsch med Wschr* Vol 84, No 31, July 31 1959, pp 1392–1393. [v]

188. Böszörményi, Z. "Psilocybin and Diethyltryptamine: Two Tryptamine Hallucinogens." *Neuro-Psychopharmacology*, Vol 2. Proc 2nd International Congress of Neuro-Pharmacology, Basle, July 1960. Amsterdam: Elsevier, 1961. pp 226–9. [vii]

—. Brack, Arthur, "Rapport sur les expériences personnelles (auto-expérimentation) avec la psilocybine." See Entry 2, pp 280–282. [vii]

189. ———, with R. Brunner and H. Kobel. "Mikrobiologische Hydroxylierungen an Mutterkornalkaloiden vom Clavin-Typus mit dem mexikanischen Rauschpilz *Psilocybe semperviva* Heim et Cailleux." *Helv chim acta*, Vol 45, Fasc 1, Jan 1962, pp 276–281. [v]

190. ———, with A. Hofmann, F. Kalberer, H. Kobel, and J. Rutschmann. "Tryptophan als biogenetische Vorstufe des Psilocybins." *Arch Phar*, Vol 294/66 No 4, 1961, pp 230–234. [v]

191. Breslaw, Daniel, "Mushrooms: A smudge on the wall is an object of limitless fascination, multiplying in size, complexity, color." The Drug Experience: First-person accounts of addicts, writers, scientists and others, edited by David Ebin. New York: Orion Press, 1961. pp 325–350. [vii]

192. Buck, Robert W. "Mushroom toxins—A brief review of the literature." *New Engl J Med*, Vol 265, No 14, Oct 5 1961, pp 681–686. [v, vii]

193. Buñag, Ruben D., and Edward J. Walaszek. "Differential antagonism by bas-phenol of responses to the indolealkylamines." *J Pharmacol*, Vol 136, 1962, pp 59–67. [vi]

—. Cailleux, Roger. "Trois essais d'ingestion avec les psilocybes hallucinogènes." See Entry 2, pp 283–285. [vii]

—. Cerletti, Aurelio. "Etude pharmacologique de la psilocybine." See Entry 2, pp 268–271. [VI]

194. ———. "Pharmacology of psilocybin". *Neuro-Psychopharmacology*. Vol I. Proc 1st International Congress of Neuro-Pharmacology, Rome, Sept 1958. Amsterdam: Elsevier, 1959, pp 291–294. [VI]

195. ———. "Teonanacatl und Psilocybin." *Dtsch med Wschr*, Vol 84, No 52, Dec 25 1959, pp 2317–2321. [VI, VII]

196. ———. "Psychotrope Drogen." *Pharmazie*, Vol 15, 1960, pp 666–667. [VI, VII]

197. Chauchard, P., and H. Mazoué. "Action de la psilocybine sur l'excitabilité des centres nerveux." *C R Soc Biol*, Vol 155, 1961, pp 71–72. [VI]

198. Christiansen, Arnold, with Ricarda Baum and Peter N. Witt. "Changes in spider webs brought about by mescaline, psilocybin and an increase in body weight." *J Pharmacol*, Vol 136, 1962, pp 31–37. [VI]

199. Cole, J. O., and R. W. Gerard, Eds., Psychopharmacology: Problems in Evaluation. Proceedings of a conference on the evaluation of pharmacotherapy in Mental Illness, Washington, D. C., 1956. Washington, National Academy of Sciences-National Research Council, 1959. National Research Council Publication 583. [VI, VII]

200. Cristau, Bernard. L'homme et les poisons. Monte-Carlo: Ed du Cap, Palais de la Scala. Nov 1961. 88 pp. See p 49. [VII]

201. Curtis, D. R., and R. Davis. "A central action of 5-hydroxytryptamine and noradrenaline." *Nature*, Lond, Vol 192, Dec 16 1961, pp 1083–4. [VI]

202. ———, and R. Davis. "Pharmacological studies upon neurones of the lateral geniculate nucleus of the cat." *Brit J Pharmacol*, Vol 18, No 2, April 1962, pp 217–246. [VI]

203. David, Aurelia E., and Jorge M. David. "La psilocibina, un nuevo alucinógeno, y sus posibilidades terapéuticas en psicoterapia." *Acta neuropsiquiát argent*, Vol 7, No 2, May 1961, pp 143–144. [VII]

—. Delay J., with P. Pichot, Th. Lemperière, P. Nicolas-Charles, and A.-M. Quétin. "Etude psycho-physiologique et clinique de la psilocybine." See Entry 2, pp 287–309. [VII]

—. ———, with P. Pichot, Th. Lemperière, and P. Nicolas-Charles. "Effets psychophysiologiques de la psilocybine." See Entry 12. [VII]

204. DELAY, J., WITH P. PICHOT AND P. NICOLAS-CHARLES. "Premiers essais de la psilocybine en psychiatrie." *Neuro-Psychopharmacology*. Vol 1. Proc 1st International Congress of Neuro-Pharmacology, Rome, Sept 1958. Amsterdam: Elsevier, 1959. pp 528–531. [VII]

205. ———, WITH J. THUILLIER, H. NAKAJIMA, AND M. C. DURANDIN. "Action de la psilocybine sur le comportement des souris normales et des souris I.D.P.N. Comparaison avec les monoéthylamide (LAE) et diéthylamide (LSD 25) de l'acide lysergique." *C R Soc Biol*, Vol 153, Feb 28 1959, pp 244–248. [VII]

206. ———, WITH P. PICHOT, TH. LEMPERIÈRE, P. NICOLAS-CHARLES, AND A.-M. QUÉTIN. Part I: "Les effets somatiques de la psilocybine." Part II: "Les effets psychiques de la psilocybine et les perspectives thérapeutiques." *Ann Méd-Psychol*, Vol 117, No 5, May 1959, pp 891–899, 899–907. [VII]

207. ———, WITH P. PICHOT, TH. LEMPERIÈRE, AND A.-M. QUÉTIN. "Effet thérapeutique de la psilocybine sur une névrose convulsive." *Ann Méd Psychol*, Vol 117, No 3, Oct 1959, pp 509–515. [VII]

208. ———, WITH P. PICHOT AND TH. LEMPERIÈRE. Part I: "La psilocybine: Historique. Pharmacophysiologie. Clinique." Part II: "La psilocybine: Actions psychologique et thérapeutique." *Presse méd*, Vol 67: 1959, No 47, Oct 10, pp 1731–1733; No 49, Oct 24, pp 1811–1813. Spanish version in *Sinopsis Revista Médica*, Vol 12, No 5, Sept-Oct 1961, pp 11–16. [V, VI, VII]

209. ———, WITH P. PICHOT AND TH. LEMPERIÈRE. "La psilocybine: Ses implications thérapeutiques." *Sud méd chir*, Vol 97, 1961, pp 9217, 9218, 9220, 9222, 9224. [VII]

210. ———, WITH collaborators. Book on psilocybin. Paris. In preparation. [VII]

211. DELPHAUT, JEAN. Pharmacologie et Psychologie. Paris: Armand Colin, 1961. See especially pp 135–7. [VI, VII]

212. DEYSSON, GUY. "Les champignons hallucinogènes et la psilocybine." *Prod pharm*, Vol 15, Jan 1960, pp 27–29. Spanish translation published in *Sinopsis Revista Médica*, Vol 12, No 5, Sept-Oct 1961, pp 3–8 [VI, VII]

213. DUCHÉ, D. J. "Les effets de la psilocybine dans un cas d'hystérie." *Sem Hôp*, Vol 37, Nov 8 1961, pp 3061–3062. [VII]

214. ESECOVER, HAROLD, WITH SIDNEY MALITZ AND BERNARD WILKENS. "Clinical profiles of paid normal subjects volunteering for hallucinogen drug studies." *Amer J Psychiat*, Vol 117, 1961, pp 910–915. [VII]

215. Evans, Franklin T. "The effect of several psychotomimetic drugs on human serum cholinesterase." *Psychopharmacologia*, Vol I, No 3, 1960, pp 231–240. [VI]

216. Gäumann, E. "Rauschzustände nach Pilzgenuss." *Experientia*, Vol 15, Sept 15 1959, pp 363–364. [VII]

217. Gelpke, Rudolf. "Von Fahrten in den Weltraum der Seele." *Antaios*, Vol 3, 1962, pp 393–411. [VII]

218. Gessner, P. K., with P. A. Khairallah, W. M. McIsaac, and I. H. Page. "The relationship between the metabolic rate and pharmacological actions of serotonin, bufotenine and psilocybin." *J Pharmacol*, Vol 130, Oct 1960, pp 126–133. [VI]

219. Giberti, F., and L. Gregoretti. "Contributo allo studio Psicofarmacologico delle depressioni e dell'ansia: Nota II. Ricerche con l'impiego della L.A.E. 32 e della psilocibina." *Le sindromi depressive*—Atti del Symposium, Rapallo, 1960. [VII]

220. Gnirss, F. "Untersuchungen mit Psilocybin, einem Phantastikum aus dem mexikanischen Rauschpilz Psilocybe mexicana." *Schweiz Arch Neurol Psychiat*, Vol 84, 1959, p 346–348. [VII]

221. Heimann, Hans. "Ausdrucksphänomenologie der Modellpsychosen (Psilocybin)." *Psychiat et Neurol*, Basel, Vol 141, 1961, pp 69–100. [VII]

222. ———. "Zur Behandlung therapieresistenter Neurosen mit Modellpsychosen (Psilocybin)," *Schweiz Arch Neurol Psychiat*, Vol 89, 1962, pp 214–220. [VII]

223. Henze, C. Recent Progress in Psychopharmacology. A Critique. Paper presented at the Meeting of the Arizona Medical Association on May 6 1960. Mimeographed. [VII]

224. Hidalgo T., William. "Estudio comparativo psicofisiológico de la mescalina, dietilamida del ácido D-lisérgico y psilocybina." *Acta med venez*, Vol 8, Nos 2–3, 1960, pp 56–62. [VII]

—. Hofmann, Albert. "Rapport sur une auto-expérience avec le *Psilocybe mexicana* Heim." See Entry 2, pp 278–280. [VII]

—. ———, with R. Heim, A. Brack, and H. Kobel. "La psilocybine, principe actif psychotrope extrait du champignon hallucinogène *Psilocybe mexicana* Heim." See Entry 2, pp 255–257. [V]

—. HOFMANN, ALBERT, WITH A. FREY, H. OTT, TH. PETRZILKA, AND F. TROXLER. "Détermination de la structure et synthèse de la psilocybine." See Entry 2, pp 263–267. [v]

225. ———, ROGER HEIM, ARTHUR BRACK, AND HANS KOBEL. "Psilocybin, ein psychotroper Wirkstoff aus dem mexikanischen Rauschpilz *Psilocybe mexicana* Heim." *Experientia*, Vol 14, No 3, March 1958, pp 107–109. (Reprinted in *Rev Mycol*, Vol XXIII, Fasc 1, April 15 1958, pp 114–118; and *Nouv Observ* . . . , pp 17–21.) [v]

226. ———. "Chemical aspects of psilocybin, the Psychotropic principle from the Mexican Fungus, *Psilocybe mexicana* Heim." *Neuro-Psychopharmacology*. Vol I. Proc 1st International Congress of Neuro-Pharmacology, Rome, Sept 1958. Amsterdam: Elsevier, 1959, pp 446–448. [v]

227. ———, WITH A. FREY, H. OTT, TH. PETRZILKA, AND F. TROXLER. "Konstitutionsaufklärung und Synthese von Psilocybin." *Experientia*, Vol 14, No 11, 1958, pp 397–401. [v]

228. ———, WITH R. HEIM, A. BRACK, H. KOBEL, A. FREY, H. OTT, TH. PETRZILKA, AND F. TROXLER. "Psilocybin und Psilocin, zwei psychotrope Wirkstoffe aus mexikanischen Rauschpilzen." *Helv chim acta*, Vol 42, Fasc 5, 1959, pp 1557–1572. [v]

229. ———. "Psychotomimetic drugs: Chemical and pharmacological aspects." *Acta physiol pharmacol neerl*, Vol 8, 1959, pp 240–258. [vi]

230. ———, AND F. TROXLER. "Identifizierung von Psilocin." *Experientia*, Vol 15, No 3, 1959, pp 101–104. [v]

231. ———. "Die psychotropen Wirkstoffe der mexikanischen Zauberpilze." A lecture delivered on Jan 14, in Bâle and on June 24 1960 in Bern. *Chimia*, Vol 14, No 9, Sept 15 1960, pp 309–318. Also published in *Verh naturf Ges Basel*, Vol 71, No 2, Dec 1960, pp 239–256. [v, vi, vii]

232. ———. "Psychotomimetica. Chemische, Pharmakologische und Medizinische Aspekte: Ein Uebersicht." *Svensk kem Tidskr*, Vol 72, No 12, 1960, pp 723–747. [v, vi, vii]

233. ———. "Die Erforschung der mexikanischen Zauberpilze." *Schweiz Z Pilz*, Vol 39, No 1, Jan 15 1961, pp 1–10. [v, vi, vii]

234. ———. "Psychotomimetics, chemical, pharmacological and clinical aspects." *Indian Practitioner*, Vol 14, Feb 1961, pp 195–197. [v, vi, vii]

235. ———. "Chemical, pharmacological, and medical aspects of psychotomimetics." *J exp med Sci*, Vol 5, No 2, Sept 1961, pp 31–51. [v, vi, vii]

236. Hofmann, Albert. "Indocybin (Psilocybin): ein Psychopharmakon aus der mexikanischen Droge Psilocybe zur psychischen Auflockerung in der Neurose-Behandling." Ms. Feb 16 1962. [VI, VII]

237. Hollister, Leo E., John J. Prusmack, James A. Paulsen, and Norma Rosenquist. "Comparison of three psychotropic drugs (Psilocybin, JB-329, and IT-290) in volunteer subjects." *J nerv ment Dis*, Vol 131, Nov 1960, pp 428–434. [VII]

238. ———. "Clinical, biochemical and psychologic effects of psilocybin." *Arch int Pharmacodyn*, Vol 130, Nos 1–2, 1961, pp 42–52. [VII]

239. Horita, A., and L. J. Weber. "Dephosphorylation of psilocybin to psilocin by alkaline phosphatase." *Proc Soc exp Biol*, Vol 106, No 1, Jan 1961, pp 32–34. [V]

240. ———, and L. J. Weber. "The enzymic dephosphorylation and oxidation of psilocybin and psilocin by mammalian tissue homogenates." *Biochem Pharmacol*, Vol 7, No 1, 1961, pp 47–54. [V]

241. Huxley, Aldous. "Visionary Experience." Lecture delivered at the International Congress of Applied Psychology, 14th session, at Copenhagen August 18, 1961. Published in Clinical Psychology, being Vol 4 of the *Proceedings*, by Munksgaard, Copenhagen, 1962, pp 11–35. [VII]

242.———. Island. A Novel. New York: Harper & Brothers, 1962. [VII]

A utopian romance in which *moksha* medicine plays an essential part; it is derived from mushrooms and based on our Mexican mushrooms. R.G.W.

243. Isbell, Harris. "Clinical Studies with Psilocybin." Paper presented at the American Psychiatric Association Meeting, Philadelphia, Pa, April 27–30 1959. Published in Scientific Exhibit Abstract. [VII]

244. ———. "Comparison of the reactions induced by psilocybin and LSD-25 in man." *Psychopharmacologia*, Vol 1, No 1, 1959, pp 29–38. [VII]

245. ———, A. B. Wolbach, A. Wikler, and E. J. Miner. "Cross tolerance between LSD and psilocybin." *Psychopharmacologia*, Vol 2, 1961, pp 147–159. [VII]

246. Janiger, O. "The use of hallucinogenic agents in psychiatry." *Calif Clin*, Vol 55, July 1959, pp 222–224; Aug 1959, pp 251–259. [VII]

247. Kalberer, F., W. Kreis, and J. Rutschmann. "The fate of psilocin in the rat." *Biochem Pharmacol.* Pergamon Press, Great Britain. Vol II. 1962. pp 261–269. [V, VI]

248. KIRÁLY, JÓZSEF. "Önkísérlet Psilocybinnel" [Auto-Experiment with Psilocybin]. *Pszichológiai Tanulmányok* [Psychological Studies]. Magyar Tudományos Akadémia. Pszichológiai Bizottság [Hungarian Academy of Learning. Psychological Committee]. Vol 3. 1960. pp 519–529. [VII]

249. KOESTLER, ARTHUR. "Return trip to Nirvana." *Sunday Telegraph*, London, March 12 1961. Translated into German, "Fahrt ins Nirwana." *Weltwoche Magazin*, April 14 1961. [VII]

250. LEARY, TIMOTHY. A Program of Research with Consciousness-Altering Substances. Harvard University, Center for Research in Personality, undated (spring or summer of 1961, covering academic year 1960–1961). Mimeographed. [VII]

251. ———. Memorandum on Current Psilocybin projects. Center for Research in Personality, Harvard University. Fall of 1961. [VII]

252. ———. "How to Change Behavior." Lecture delivered at the International Congress of Applied Psychology, 14th session, at Copenhagen, August 18, 1961. Published in Clinical Psychology, being Vol 4 of the *Proceedings*, by Munksgaard, Copenhagen, 1962, pp 50–68. [VII]

253. ———, WITH GEORGE LITWIN AND RALPH METZNER. "Americans and Mushrooms in a Naturalistic Environment. A Preliminary Report." Spring of 1962. Nine page ms. Harvard University. [VII]

254. ———, WITH RICHARD ALPERT. Foreword to Alan W. Watt's The Joyous Cosmology. New York: Pantheon Books, 1962. pp IX–XV. [VII]

255. LEUNER, HANSCARL, AND HEINZ HOLFELD. "Ergebnisse und Probleme der Psychotherapie mit Hilfe von LSD-25 und verwandten Substanzen." *Psychiat Neurol*, Vol 143, 1962, pp 379–391. [VII]

256. MALITZ, SIDNEY, WITH HAROLD ESECOVER, BERNARD WILKENS, AND PAUL H. HOCH. "Some observations on psilocybin, a new hallucinogen, in volunteer subjects." *Comprehens Psychiat*, Vol 1, No 1, Feb 1960, pp 8–17. [VII]

257. MARMO, E. "Psilocybin and psilocine: Active principles of Mexican hallucinogenic fungi." *Clin ter*, Vol 18, May 1960, pp 464–490 [VII]

258. MATSUDA, ICHIRO. "Hallucination caused by *Psilocybe venenata* (Imai) et Hongo." (In Japanese) Mycological Society of Japan. *Transactions*, Vol II, No 4, 1960, pp 16–17. [VII]

259. MAXWELL, G. M., WITH G. M. KNEEBONE AND R. B. ELLIOTT. "The effect of psilocybin upon the systemic, pulmonary, and coronary circulation of the

intact dog." *Arch int Pharmacodyn*, Vol 137, Nos 1–2, May 1 1962, pp 108–115. [VI]

260. MICHAUX, HENRI. "La Psilocybine (Expériences et Autocritique)." *Rev mycol*, Vol XXV, Fasc 1, June 15 1960, pp 52–68. Also published in *Lettres nouv*, Vol VII, ns, No 35, Paris, 1959, pp 1–16; and in Connaissance par les gouffres, by Henri Michaux. Paris: Librairie Gallimard, 1961, pp 33–70. [VI, VII]

261. MONNIER, MARCEL. "Action de la psilocybine sur le cerveau du lapin." *Experientia*, Vol 15, No 8, 1959, pp 321–323. [VI]

262. ———, AND P. KRUPP. Part I: "Classification électro-physiologique des stimulants du système nerveux central." Part II, with the collaboration of S. Graber: "Action des stimulants hallucinogènes, psychotoniques, analeptiques sur les mécanismes d'éveil et de détente." *Arch int Pharmacodyn*, Vol 127, Nos 3–4, pp 337–360. [VI]

263. MURRAY, HENRY A. "Prospect for Psychology." Lecture delivered at the International Congress of Applied Psychology, 14th session, at Copenhagen, August 18, 1961. Published in Psychology and International Affairs: Can We Contribute?, being Vol 1 of the *Proceedings*, by Munksgaard. Copenhagen, 1962, pp 11–32. Shortened version in *Science*, Vol 136, No 3515, May 11 1962, pp 483–8. (VII]

264. NIETO, DIONISIO. "Psicosis experimentales: Efectos psíquicos del hongo *Stropharia cubensis* de Oaxaca." *Neurología-Neurocirugía-Psiquiatría*, Vol I, No 1, Oct 1959, pp 6–16. Republished in shortened form in *Sinopsis Revista médica*, Vol 12, No 5, Sept-Oct 1961, pp 17–19. [VII]

265. ORTIZ GALVÁN, ARMANDO, AND MAITLAND BALDWIN. "Algunos aspectos neurológicos de los hongos alucinatorios Mexicanos." *Rev méd Hosp gen*, (*Méx*), Vol 22, No 2, Feb 1959, pp 137–150. [VI]

266. PICHOT, PIERRE. "Hallucinogenic drugs." *Lancet*, Vol 1, No 7174, 1961, p 444. [VII]

267. POLLARD, J. C., WITH C. BAKKER, L. UHR, AND D. F. FEUERFILE. "Controlled sensory input: A note on the technic of drug evaluation with a preliminary report on a comparative study of Sernyl, Psilocybin and LSD-25." *Comprehens Psychiat*, Vol 1, 1960, pp 377–380. [VII]

268. PRÉZELIN, JACQUES. "Halluciné volontaire." *Sci et Vie*, Feb 1959, Paris. [VII]

269. QUÉTIN, ANNE-MARIE. La Psilocybine en Psychiatrie clinique et expérimentale. Doctoral thesis in Medicine, Paris, June 10 1960. 160 pp. [VII]

270. Richter, H. R. "EEG Untersuchungen bei psilocybin (CY 39 Sandoz) einem neuen Phantasticum, nebst grundsätzlichen Bemerkungen für Prüfung von Neuropsychopharmaka." Schweiz Arbeitsgemeinschaft für EEG, Sitzung vom 9. Mai 1959, Tschugg. Resumé in *EEG Journal*. [VII]

271. Rinkel, Max. A summary of the report on experiments with psilocybin, presented at the American Psychiatric Association Regional Research Conference, Chicago, June 5–6 1959. National Institute of Mental Health. *Psychopharmacology Service Center Bulletin*, Nov 1959, Bethesda, Maryland, p 10. Correction published March 1960, p 8. [VII]

272. ———, with Charles R. Atwell, Albert DiMascio, and Jonathan Brown. "Experimental psychiatry. V-psilocybine, a new psychotogenic drug." *New Engl J Med*, Vol 262, No 6, Feb 11 1960, pp 295–297. [VII]

273. ———, Alberto DiMascio, Ames Robey, and Charles Atwell. "Personality patterns and reaction to psilocybine." *Neuro-Psychopharmacology*, Vol 2. Proc 2nd International Congress of Neuro-Pharmacology, Basel, July 1960. Amsterdam: Elsevier. 1961. pp 273–279. [VII]

274. Robert, René. Intérèt de la peinture pour étudier les manifestations neurologiques et psychiatriques induites par la psilocybine (à propos de 32 protocoles réalisés chez des artistes). Ms. Paris, 1961. 207 pp typed. [VII]

275. ———. Contributions à l'étude des Manifestations Neuro-Psychiques Induites par la Psilocybine chez le Sujet Normal." A propos de 35 protocoles réalisés chez les peintres. Doctoral thesis in Medicine, Paris, 1962, 155 pp. [VII]

276. Rome, Howard P. "Mushrooms, Folklore, and Experimental Psychoses." American Psychiatric Association. Scientific Papers and Discussion, Ed by: J. S. Gottlieb and G. Tourney, Oct 29–31, 1959, Detroit, Michigan. Published in *Psychopharmacologic Studies*, pp 188–201. [VII]

277. Roubíček, J. "Psilocybin, ein neues Phantastikum." *Cs Psychiat*, Vol 56, Feb 1960, pp 44–55. [VII]

278. Rümmele, W. "Die Stellung des Psilocybins unter anderen psychotropen Substanzen." *Schweiz Arch Neurol Psychiat*, Vol 84, 1959, pp 348–352. [VII]

279. ———, and F. Gnirss. "Untersuchungen mit Psilocybin, einer psychotropen Substanz aus Psilocybe mexicana." *Schweiz Arch Neurol Psychiat*, Vol 87, 1961, pp 365–385. [VII]

280. Santesson, C. G. "Einige Mexikanische Rauschdrogen." *Ark Bot*, Vol 29A, No 12, 1939, pp 1–9. [V]

281. Savoldi, F., with G. C. Maggi and S. Noli. "Attività elettrica cerebrale spontanea e provocata sotto azione di alcuni principi allucinogeni di *Psilocybe mexicana* Heim (psilocina e psilobina)" *Boll Soc med-chir Pavia*, Vol 74, 1960, pp 813–826. [VI]

282. Sercl, von M., with J. Kovarik and O. Jaros. "Klinische Erfahrungen mit Psilocybin (Cy 39 Sandoz)." *Psychiat et Neuro*, Basel, Vol 142, No 3, 1961, pp 137–146. [VII]

283. Silva, F., with R. G. Heath, T. Rafferty, R. Johnson, and W. Robinson. "Comparative Effects of the Administration of Taraxein, d-LSD, Mescaline, and Psilocybin to Human Volunteers." *Comprehens Psychiat*, Vol 1, 1960, pp 370–376. [VI, VII]

284. Songar, Ayhan, and Bülent Erutku. "Les drogues dites psychoactives." *Istanbul Rev Chambre Med*, October 1959, No 2, pp 2–17. [VII]

285. Stein, Sam I. An Unusual Effect from a Species of Psychoneurophysiologically Significant Mexican Mushrooms, *Psilocybe cubensis*. June 1958. Paper circulated privately. [VII]

This paper was substantially re-written when it appeared in print; see next Entry.

286. ———. "An unusual effect from a species of Mexican mushrooms, *Psilocybe cubensis*." *Mycopathol et Mycol Appl*, Vol 9, Fasc 4, Sept 29 1958, pp 263–267. [VII]

287. ———. "Clinical observations on the effects of *Panaeolus venenosus* versus *Psilocybe caerulescens* Mushrooms." *Mycologia*. Vol 51, No 1, Jan-Feb 1959, pp 49–50. [VII]

288. ———. "Some Biochemical and Physiological Correlations Developed from Clinical Observations with Various Toxic Mushrooms and Medicinal Products." Paper read at Pennsylvania State University, Aug 31 1959. Circulated in Ms. [VII]

289. ———, with Gerhard L. Closs and Norman W. Gabel. "Observations on psychoneurophysiologically significant mushrooms." *Mycopathol* et *Mycol Appl*, Vol 11, Fasc 3, Oct 15 1959, pp 205–216. [VII]

290. Stévenin, L., and J. C. Benoit. "A propos de l'utilisation des substances dysleptiques en psychothérapie, résultats favorables de séances répétées." *Encéphale*, Vol 49, No 5, 1960, pp 428–434. [VII]

291. Supniewski, J., and H. Supniewska, "Hallucinogenic Mushrooms and their Chemical Components." (In Polish) *Postępy Hig Med dośw*, Vol 13, May-June 1959, pp 265–282. [V, VI, VII]

292. TOSCANO, AGUILAR. "Etude Auto-expérimentale avec Deux Drogues Psychodysleptiques LSD-25 et Psilocybine: Comparaison des Résultats." Mémoire pour le titre d'Assistant étranger, Paris, 1959. [VII]

293. TROXLER, F., WITH F. SEEMAN AND A. HOFMANN. "Abwandlungsprodukte von Psilocybin and Psilocin." *Helv chim acta*, Vol 42, Fasc 6, 1959, pp 2073–2103. [V]

294. TURNER, WILLIAM J., WITH SIDNEY MERLIS. "Effect of some indolealkylamines on man." *A M A Arch Neurol Psychiat*, Vol 81, Jan 1959, pp 121–129. [VII]

295. TYLER, V. E., JR. "Occurrence of serotonin in a hallucinogenic mushroom." *Science*, Vol 128, May 5 1958, p 718. [V]

296. ———. "Phylogeny and Chemical Constituents." Teachers' Seminar on Pharmacognosy, August 1959. Held under the auspices of the American Association of Colleges of Pharmacy, at the College of Pharmacy, University of Illinois, Chicago. Proceedings, Ed by: Frank A. Crane, pp 101–111. [V]

297. ———, AND M. H. MALONE. "An investigation of the culture, constituents, and physiological activity of *Panaeolus campanulatus*." *J Amer Pharm Ass*, (Sci Ed.), Vol 49, No 1, Jan 1960, pp 23–27. [V, VI]

298. ———. "Indole derivatives in certain North American mushrooms." *Lloydia*, Vol 24, No 2, June 1961, pp 71–74. [V]

299. V[ERNET], J. "Actions psychologique et thérapeutique de la psilocybine." *Méd et Hyg*, Vol 18, No 466, June 10 1960, p 420. [VII]

300. VOLMAT, R., AND R. ROBERT. "Premières peintures obtenues chez un artiste sous l'action d'un nouvel hallucinogène: La psilocybine." *Aesculape*, Vol 43, May 1960, pp 27–38. [VII]

301. ———, G. ROSOLATO, C. WIART, AND R. ROBERT. "Recherches expérimentales actuelles en esthétique." *Le Carabin*, Dec 1960. Editions Arscia, Brussels, pp 81–90. With illustrations. [VII]

302. WATTS, ALAN E. The Joyous Cosmology: Adventures in the Chemistry of Consciousness. New York: Pantheon Books, 1962. [VII]

A brilliant word-picture of the state of consciousness induced by psilocybin, LSD-25, and mescaline. R.G.W.

303. WEIDMANN, H., M. TAESCHLER, AND H. KONZETT. "Zur Pharmakologie von Psilocybin, einem Wirkstoff aus *Psilocybe mexicana* Heim." *Experientia*, Vol 14, No 10, 1958, pp 378–379. [VI]

304. Weidmann, H., and A. Cerletti. "Zur Pharmakodynamischen Differenzierung der 4-Oxyindolderivate Psilocybin und Psilocin im Vergleich mit 5-Oxyindolkorpern (Serotonin, Bufotenin)." *Helv physiol pharmacol Acta*, Vol 17, Fasc 3, 1959, pp c46–c48. [VI]

305. ———, and A. Cerletti. "Studies on Psilocybin and Related Compounds: I. Communication: Structure/activity relationship of Oxyindole-derivatives with regard to their effect on the knee jerk of spinal cats." *Helv physiol pharmacol Acta*, Vol 18, 1960, pp 174–182. [VI]

306. ———. "Zur Pharmakologie psychotroper Wirkstoffe." *Schweiz Arch Tierheilkunde*, Vol 103, 1961, p 191. [VI]

307. Wilkins, Bernard, with Sidney Malitz and Harold Esecover. "Clinical observations of simultaneous hallucinogen administration in identical twins." *Amer J Psychiat*, Vol 118, 1962, pp 815–818. [VII]

308. Witt. Peter. " 'Tangled Web' helps drug testing." *Med News*, Vol 6, No 16, 1960, p 2. [VI]

309. ———. "A Biological Test Method for Psychotropic Drugs Based on the Web-Building Behavior of Spiders." National Medicinal Chemistry Symposium, 7th Session, Rhode Island, June 20–22, 1960. Ms. [VI]

310. Wolbach, A. B., Jr., E. J. Miner and Harris Isbell. "Comparison of Psilocin with Psilocybin, Mescalin, and LSD-25." *Psychopharmacologia*, Vol 3, 1962, pp 219–223. [VI, VII]

311. Woolley, D. W., and N. K. Campbell. "Serotonin-like and Antiserotonin Properties of Psilocybin and Psilocin." *Science*. Vol 136. 1962. pp 777–778. [V, VI]

312. Zsigmond, E. K., with F. F. Foldes and V. M. Foldes. "The inhibitory effect of psilocybin and related compounds on human cholinesterases." *Fed Proc*, Vol 20, Part I, 1961, p 392. [VI]

VIII. PARAPSYCHOLOGICAL

Books

313. Puharich, Andrija. The Sacred Mushroom. New York: Doubleday. Jan 22 1959. Also in London: Gollancz. 1959.

314. ———. Beyond Telepathy. New York: Doubleday. April 1962.

IX. CASES OF ACCIDENTAL INGESTION OF HALLUCINOGENIC MUSHROOMS

315. Barrows, Charles. "Description of Narcotic Effect of *Stropharia cubensis* Earle." Unpublished notes of an experience of the author, in the files of R. Gordon Wasson.

316. Charters, A. D. "Mushroom poisoning in Kenya." *Trans roy Soc trop Med Hyg*, Vol 51, No 3, May 1957, pp 265–270.
Account of two cases of *Stropharia* poisoning in Kenya, pp 269–70. R.G.W.

317. Cullinan, E. R., with Dulcie Henry and R. W. Rayner. "Fungus Poisoning in the Nairobi District." *E Afr med J*, Vol 22, Aug 1945, pp 252–254.

318. Douglass, Beaman. "Mushroom poisoning." *Torreya*, Vol 17, No 10, Oct 1917, pp 171–5. See also L.C.C. Krieger, "Notes on the reputed poisonous properties of *Coprinus Comatus*." *Mycologia*, Vol 3, 1911, pp 200–2.

319. Glen, G. "A case proving the deleterious effects of the Agaricus Campanulatus, which was mistaken for the Agaricus Campestris, or Champignon." *Lond med and physi J.* Vol 36, 1816. pp 451–3. The author cites a previous case with similar symptoms that had appeared in *Gentleman's Magazine*, Aug 1815.

—. Matsuda, Ichiro. See Entry 258.

320. Verrill, A. E. "A recent case of mushroom intoxication." *Science*, n.s., Vol 40, No 1029, Sept 18 1914, pp 408–410.

—. Wasson, R. Gordon. See Entry 47 for three case histories not reported elsewhere.

X. BOOK REVIEWS

321. *Audubon Magazine*. Unsigned. Vol LIX, No 4, July-August 1957, p 188. Review of Entry 1.

322. Barnouw, Victor. *J Amer Soc Psych Res*, Vol 51, No 4, Oct 1957, pp 153–158. Review of Entry 1.

323. Becker, Georges. "Une visite peu ordinaire." Musée du Château, Montbéliard, France. *Bull Soc Hist nat Pays Montbéliard*, 1959–1960, pp 58–59.

324. ———. "Un livre extraordinaire." *Rev mycol*: Supplément, Chronique de l'amateur, Vol XXII, Fasc 2, Sept 15 1957, pp 241–246. Reprinted in Les Champignons et Nous, *Rev mycol*, Mémoire hors-série, No 7, June 1 1959, pp 76–81. Review of Entry 1.

325. ———."Un livre sans exemple." *Rev mycol*: Tribune libre, Vol XXIV, Fasc 3, Sept 15 1959, pp 264–267; also published in *Science et Nature*, No 34, July-August 1959, p 39. Review of Entry 1.

326. ———. "60,000 Champignons." *Rev mycol:* Supplément, Chronique de l'amateur, Vol XXIII, Fasc 4, Dec 31 1958, pp 415–418.
M. Becker replies to Alexander H. Smith's criticism of Entry 1. R.G.W.

327. Bird, Paul. "There's more to a mushroom than meets the eye." *N Y Times Book Review*, July 14 1957. Review of Entry 1.

328. Borel, A. "Champignons et psychisme." *Bull Soc de Bot du Nord de la France*, Vol XIII, No 1, Jan-Feb-March 1960, pp 17–29. Review of Entry 1.

329. Boyd, William C. *Amer Anthrop*, Vol 60, Feb 1958, pp 213–215. Review of Entry 1.

330. Dennis, R. W. G. *Kew Bull*, No 3, 1957, pp 392–394. Review of Entry 1.

331. Fauvel, Camille. "A propos de la chronique de G. Becker: sur l'ouvrage mycologique de Mrs et Mr Wasson." *Rev mycol*: La Chronique anecdotique, Vol XXIII, Fasc 1, April 15 1958, pp 149–153.
A commentary inspired by Alexander H. Smith's strictures on the Wassons' book, Entry 1. R.G.W.

332. Font Quer, P. "Una historia de hongos." *Coll Bot Barcinone*, Vol 5 (III), No 31, 1958, pp 659–670. Review of Entry 1.

333. ———. *Coll Bot Barcinone*, Vol 5 (III), 1958, pp 890–892. Review of Entry 1.

334. ———. *XIX Siglos despuès . . . El Dioscórides Renovado. Plantas Medicinales.* Introduction, pp LII. *et seq.* and LXVI *et seq.* Editorial Labor, Barcelona. 1962.

335. Hall, Elizabeth C. *Herbarist*, No 25, 1959, p 65. Review of Entry 1.

—. Heim, Roger. See Entry 27.

336. Imazeki, Rokuya. *Trans* Myc Soc Japan, Vol 1, No 5, Oct 10 1957, pp 11–15. (In Japanese) Review of Entry 41.

337. Kobayasi, Yosio. (In Japanese) *J Jap Bot*, Vol XXXII, No 10, Oct 1957 pp 319–320.

338. Leuner, H. "A magic mushroom unmasked." Sandoz 1886–1961, Jubilee Volume, Basel, 1961, pp 44–49. Review of Entries 1 and 2.

339. Lévi-Strauss, Claude. "Dis-moi quels champignons." *L'Express*, Paris, April 10 1958, p 17. Review of Entry 1.

340. L[OT], F[ERNAND]. *Figaro Littéraire*, Paris, May 16 1959. Review of Entry 1.

341. MACHEK, VÁCLAF. *C C H mykol Sborn*, Vol 37, Prague, 1960, pp 30–34, 63–67, 105–108, 149–154. Review of Entry 1.

342. ———. *Zeitschrift für slavische Philologie*, Vol XXVIII, No 1, 1959, pp 213–217. Review of Entry 1.

343. MANSART, PHILIPPE. "Apport des Aztèques à la psychiatrie: Le champignon Teonanácatl." *Tele Magazine*. Vol 5, No 169. Jan 18–24 1959, p 41.

344. [MARQUES, LUIZ]. "The mighty mushroom," by 'J. B. Dominick.' *Anglo-Portuguese News*, Lisbon, June 29 1957, pp 8–9.

345. ———. "Again the mighty mushroom," by 'J. B. D.' *Anglo-Portuguese News, Lisbon*, Aug 22 1959, p 8. Review of Entries 2, 47, and 48.

346. MORGENSTIERNE, GEORGE. " 'Mushroom' and 'Toadstool' in Indo-Iranian." *B[ulletin of] S[ociety of] O[riental and] A[frican] S[tudies]*, Vol XX, pp 451–7. 1957. Review of Entry 1.

347. MUENCH, EUGENE V. *Names*, Journal of the American Name Society, Vol VI, No 3, Sept 1958, pp 188–189. Review of Entry 1.

348. *New Yorker*. "Talk of the Town: Mycophile." May 18 1957, pp 25–27. Also, "Talk of the Town: Aristocrats' Purveyor." *New Yorker*, July 27 1957, pp 21–22.

349. OSTOYA, PAUL. "Les champignons hallucinogènes du Mexique." *Nature*, Paris, No 3272. Dec 1957. pp 483–486.

350. POLYVER, MAX. "Le culte étrange du Champignon Sorcier." *Géographia*. No 126, March 1962, St. Ouen, pp 52–60.

351. ROGERS, DONALD P. *Mycologia*, Vol 50, No 1 Jan-Feb 1958, pp 147–148. Review of Entry 1.

352. ROUSSEAUX, ANDRÉ. "A propos du livre de Roger Heim et R. Gordon Wasson: Les champignons hallucinogènes du Mexique." *Figaro Littéraire*, Paris, Oct 24 1959. Translated into Spanish, "Los hongos alucinantes de México." *Las Novedades*, Mexico City, Dec 6 1959. Review of Entry 2.

353. RUET, GILBERT. "A propos de champignons magiques." *La Suisse*, No 335, Dec 1 1957.

354. SCHULTES, RICHARD EVANS. *Nat Hist*, N. Y., Vol 67, No 1, Jan 1958, pp 4–5, 46–49. Review of Entry 1.

355. Smith, Alexander H. *Mycologia*, Vol 50, No 3, May-June 1958, pp 449–452. Review of Entry 1.

The American mycologist in this review criticized sharply the Wassons and incidentally his confrère Roger Heim for certain alleged inaccuracies in *Mushrooms Russia & History*, alleged inaccuracies that had no bearing on their general argument. We decided to ignore what we considered his untoward remarks, but in France they aroused lively comment and inspired three replies showing, in my opinion, that Dr. Smith had himself been largely mistaken in his strictures: see Entries 27, 326, and 331. R.G.W.

356. Smythies, J. R. "Fungus and Foresight." Review of The Sacred Mushroom, by Andrija Puharich. *Sunday Times*, London, March 13 1960.

357. Snell, Walter H. *Mycologia*, Vol 52, No 1, Jan-Feb 1960, pp 169–170. Review of Entry 2.

358. *Times Literary Supplement*. "In a cellar growing dankly." London, Dec 19 1958. Review of Entry 1.

See letter of comment on this review from R.G.W. in *TLS*, Feb 27 1959. R.G.W.

359. Vogt, Evon Z. *Amer Antiq*, Vol 24, No 1, July 1958, pp 85–86. Review of Entry 1.

360. [White, G. M.] *Psychiat Quart*, Vol 31, No 4, Oct 1957, pp 781–782. Review of Entry 1.

361. Wilson, Edmund. "Mushrooms, Russia and the Wassons." *The Nation*, New York, Nov 16 1957, pp 364–370. Review of Entry 1.

362. Wrigley, Gladys M. *Geogr Revr*, Vol 48, No 1, Jan 1958, pp 142–143. Review of Entry 1.